

LIGHTING+SOUND *International*



Strand Lighting's product manager Susan Dandridge gets the 'Strand Spectacular' on the road at Theatre Royal Bristol and the Swan Theatre Stratford upon Avon prior to its UK and European Tour. L + SI presents Strand's massive new range of products in a special feature in this issue pages 25-44.

PLASA

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October 1987

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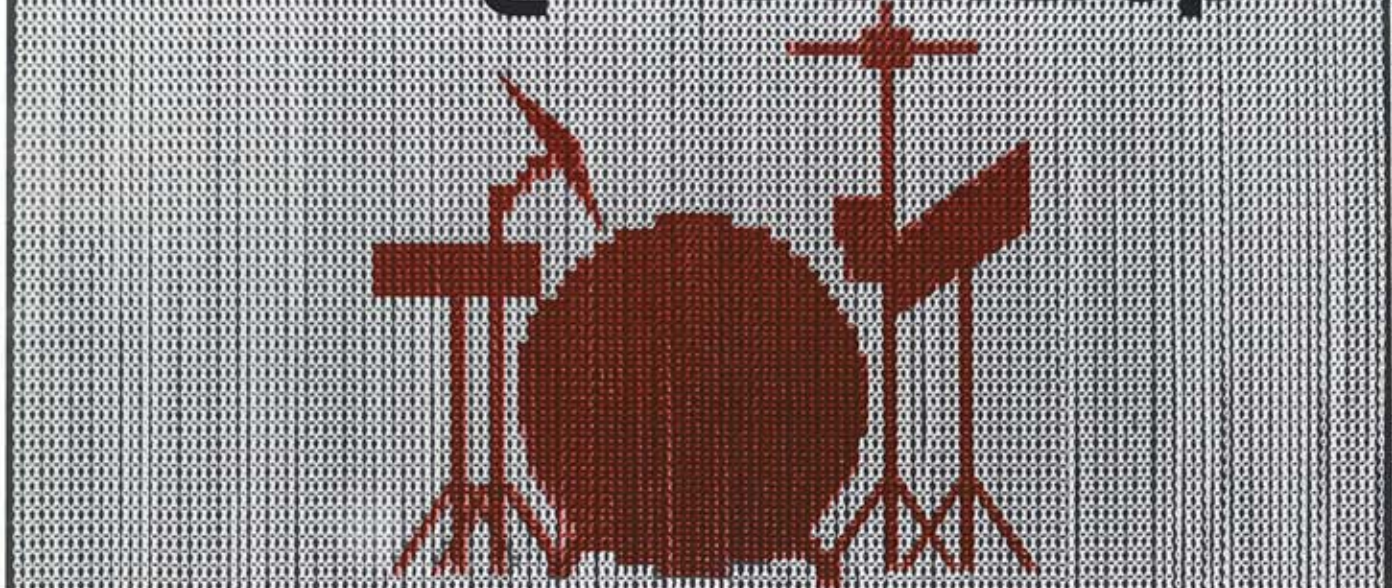
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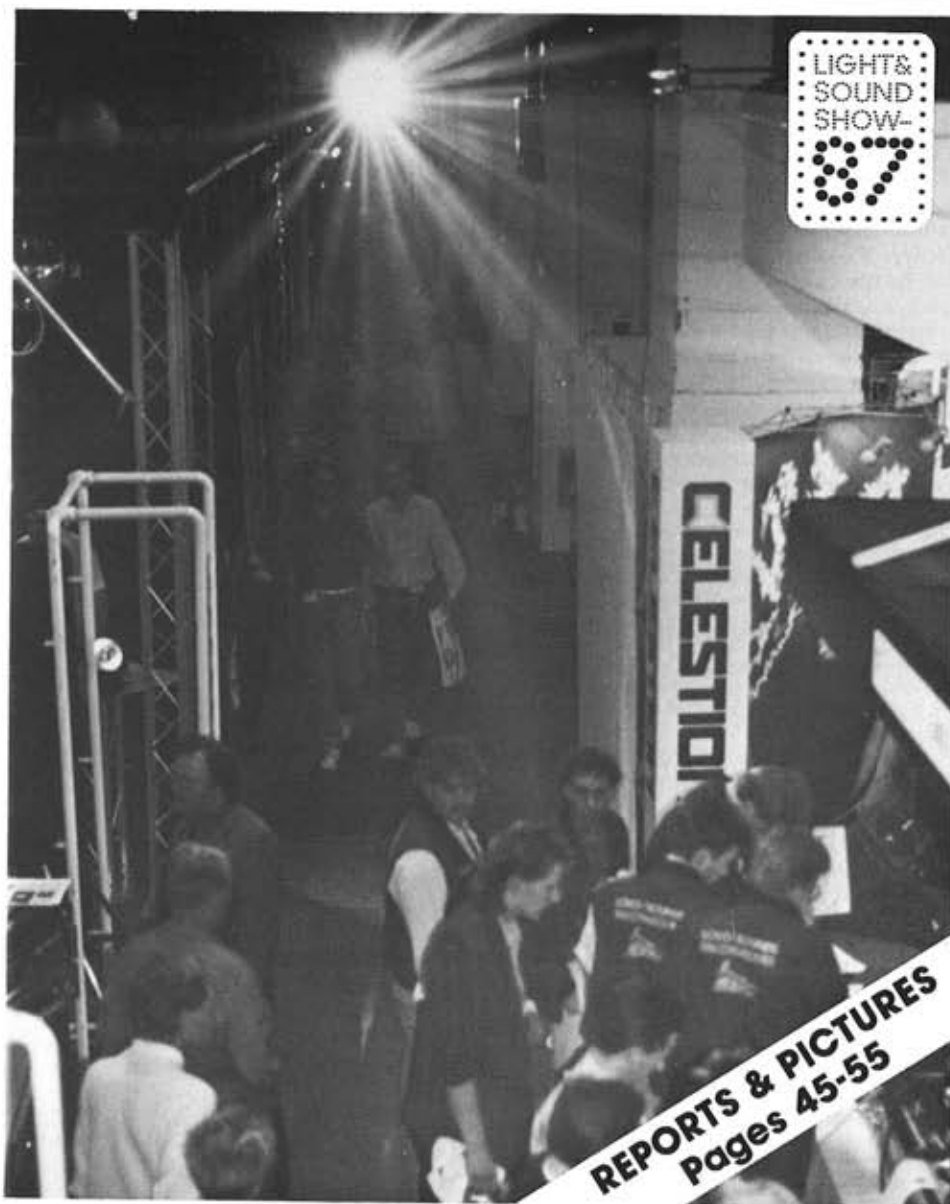
SMALLER—FASTER—LIGHTER



LIGHTING+SOUND *International*

OCTOBER 1987

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PLASA

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Now for Olympia

PLASA plans for 1988 Light and Sound Show at advanced stage

After another highly successful Light and Sound Show, the Professional Lighting and Sound Association has said farewell to Novotel in Hammersmith as the venue for its annual trade event for the Industry. It has simply outgrown what the hotel can offer, in terms of both space and facilities.

The 1988 Show will take place two miles down the road towards Central London at Olympia 2 from 11th-14th September, and it will give PLASA a chance to offer much more to both exhibitors and visitors alike, in a far better environment within a custom-built facility. If it is planned correctly, then that will be the case.

But it is absolutely vital that the decisions currently being made by the PLASA committee as we go to press are near as damn right in all major aspects. The move from the top of the first division to the very small premier league of truly international trade shows will not be easy. And the chance to get it right is rarely an offer that is repeatable.

What needs to be done? Ever improving organisation should follow automatically if sufficient thought is given to servicing both exhibitors and visitors, and the breadth of facilities at Olympia will greatly help here. Marketing and publicity has got to be top notch. And there is proof that this is also understood by the PLASA committee and organiser David Street. Who hasn't heard of the Olympia move? Very few, I would guess, and the campaign began back in May this year at SIB in Rimini, Italy.

There are two major and related problems PLASA has to cope with, and one is a degree easier than the other. Firstly, the 'house' has got to be 'dressed', just as a competent theatre box office sells out a seating plan for a show.

Secondly, there is the big remaining problem of **sound**. And it is here that PLASA has got to stand absolutely firm when its hopefully correct decisions are made on how to cope with excessive noise coming from some exhibitors stands. There are options open. Sound booths can be offered, and areas can be designated 'no sound'.

But whatever is done, any exhibitor booking space should know at the time of booking that he is **not** going to be blasted at for four solid days with little chance of developing any sort of conversation with potential customers.

Give sound people what they need to do their job professionally - and charge for it if necessary - but please ensure that the rest of the Show, both exhibitor and visitor alike, are able to walk anywhere in the exhibition without fear of exiting as a walking zombie.

If PLASA avoid tackling the problem head on then the ever higher standard of visitor now coming to the Show will be lost for good - wherever the venue.

John Offord

Discoscene '87

Organiser Terry Lees has announced that this year's Midlands area equipment trade exhibition is to be held at The Mackadown, Kitts Green, Birmingham on Sunday 8th November. The show will be open from 12 noon until 5 p.m. and the promoters are local retailers, Roadshows Disco Centre. Details on 021-707 1925.



North American Trade Mission Success

Representatives of 20 leading North American sound and lighting equipment companies visited the UK on a trade mission in early September under the joint sponsorship of PLASA and the British Overseas Trade Board. Their visit centred on the PLASA Show, and was followed by trips to various sound and lighting companies around the UK in a two-day schedule of on-site visits.

The party is pictured above, together with PLASA committee members and secretary Tony Andrew, who was responsible for the major part of the mission's organisation and close liaison with the BOTB.

Movers

Lighting designer **Graham Barron** has set up Lizard Lighting Designs, and is now operating independently from 23 Frank Lane, Thornhill, Dewsbury WF12 0JW telephone (0924) 462836.

Lasergrafix Limited of Royston has announced that

it has appointed **Steve Johnson** as sales manager. Formerly with Laserpoint, he will be responsible for creating new business in all market sectors.

Lighting designer **Jim Laws** has moved his outfit to West End Lodge, Wrentham, Beccles, Suffolk NR34 7NH telephone (050 275) 264.



The 528 channel Strand Galaxy installed in the National's Lyttelton control room.

Strand Galaxy for National Theatre

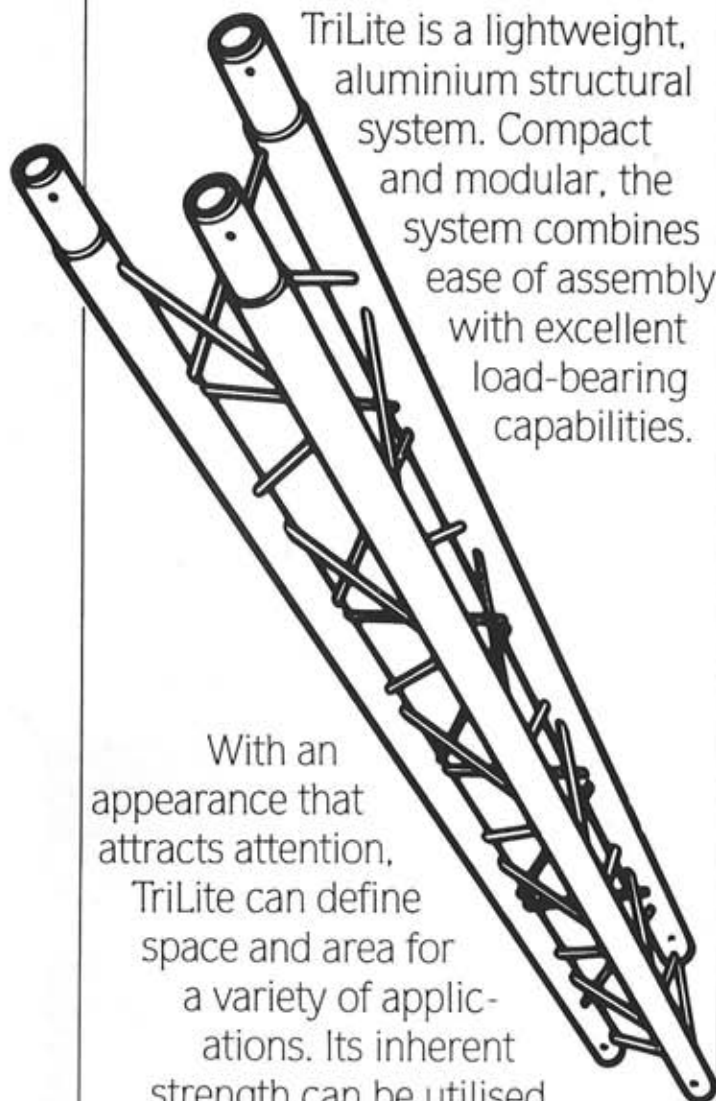
Strand Lighting have announced that they have won an order from London's National Theatre for a 528 channel Galaxy memory lighting system for the Lyttelton auditorium, completing the replacement programme for the National's three switchboards. Strand Lighting controls have also been specified and installed in the Olivier Theatre, where a 768 channel Galaxy system is in use and a 180 channel Strand Gemini control takes care of the smaller Cottesloe space.

The National Theatre's selection of Strand Lighting's Galaxy emphasises the success of this large control system - over 230 have been sold in the five years since its launch.

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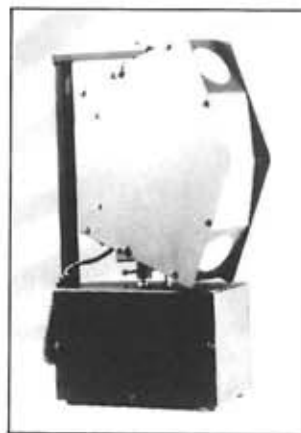
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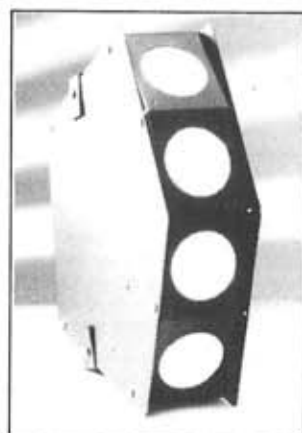
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Alan Kilford Confirmed as BOSE MD

The Bose Corporation has confirmed Alan Kilford as managing director of Bose UK, following his outstanding success since he took charge as general manager 14 months ago.

Under Kilford's guidance, Bose's standing in the professional audio and domestic hi-fi markets - as well as in market areas previously untapped by sound system manufacturers - has increased dramatically. His main achievement during 1987 has been to implement a rigorous sales and marketing strategy for the complete range of Bose products.



Alan Kilford (right) pictured at the recent PLASA Show with Stardream Audio Visual's John Barnett.

"As far as the professional side of the market is concerned, we have gone from strength to strength, with Bose now providing sound systems for venues ranging from pubs and clubs to football stadiums and monasteries!" he told L&S.

"The introduction of the Bose Modular design system software (the CAD programme which

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For full details contact Chris Botting

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enables the acoustic properties of any given space to be simulated and assessed) has also greatly increased our profile in the interior design, construction and leisure industries. Over the next year we'll be making a concerted effort to expand into these new market areas for professional sound - people have begun to realise how important quality sound is to the success of leisure and entertainment ventures - and we want to be there from the beginning to ensure that the right speaker system is used."

David Graham at Harrison

Harrison Information Technology has appointed David Graham as UK sales manager for their range

of professional audio equipment. He is well known in the music and recording industries due to his previous involvement as advertising manager for 'International Musician'.

After spending four years advising manufacturers and retailers how best to sell their products via media advertising, David is looking forward to directing his experience and market knowledge towards selling a tangible product range. His employment at Harrison coincides with their success in winning the DI 'Best Amplifier' award, and with the launch of the brand new Xi-Series of Mosfet amplifiers.

Harrison now have 28 products in their range including crossovers, graphic equalisers and mixers, so he will be kept busy servicing established customers as well as introducing himself to the 'uninitiated' across the country.

Cerebrum/Celco/Studiomaster in China

The recent BITV 87 Exhibition held in the brand new Central Chinese Television Centre in Beijing, was well represented by a number of UK, European and especially Japanese companies trying to establish themselves in the Peoples Republic TV and broadcast market. Representing Celco and Studiomas was Cerebrum Lighting's Hong Kong agent New Sound

Studio, who also had the unenviable task of translating a Celco Series 2 Operations Manual into Chinese!



The New Sound Studio stand at BITV 87 in Beijing.



Cerebrum's marketing director Mike Fisher on stand at the Show with Ms Zhang Min, chairman of the council of the China Lighting Society and Department of Training of China Central Television (CCTV) in picture second from left.

系列2调光器系统

在系列2调光器系统过程中，CELCO使用了最新的光电技术和产品，使产品具有无可比拟的可靠性和最高标准的声学性能。

由于系统结构中采用了超高品质的元件，并且在制造过程中采用了先进的工艺，使得系列2调光器系统产品的测试，达到了世界先进水平。目前，在投入使用前，对包括中国在内的全部主要市场进行了测试，以确保产品在投入使用前，达到最高的性能标准。

以下部分介绍了系列2调光器系统的许多重要特性，这些特性只有最高级的调光器才具有。

系列2“九十”和“六十”

由于采用了先进的操作原理，系列2“九十”和“六十”对世界各国的电压和频率，均具有极好的兼容性，并能在各种电压和频率下，自动地进行调节。此外，系列2“九十”和“六十”还具有高功率、高效率和低能耗等优点。因此，系列2“九十”和“六十”是调光器系统中的最佳选择。

同时，系列2“九十”和“六十”还具有体积小、重量轻、安装方便、使用寿命长等优点。因此，系列2“九十”和“六十”是调光器系统中的最佳选择。

系列2“三十”

系列2“三十”在系列2调光器系统中是最小的一种调光器。它具有体积小、重量轻、安装方便、使用寿命长等优点。因此，系列2“三十”是调光器系统中的最佳选择。

此外，系列2“三十”还具有高功率、高效率和低能耗等优点。因此，系列2“三十”是调光器系统中的最佳选择。

在系列2调光器系统中，系列2“三十”是调光器系统中的最佳选择。

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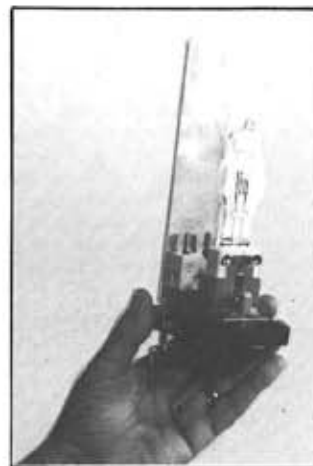
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Joe Thornley Joins Lee Colortran

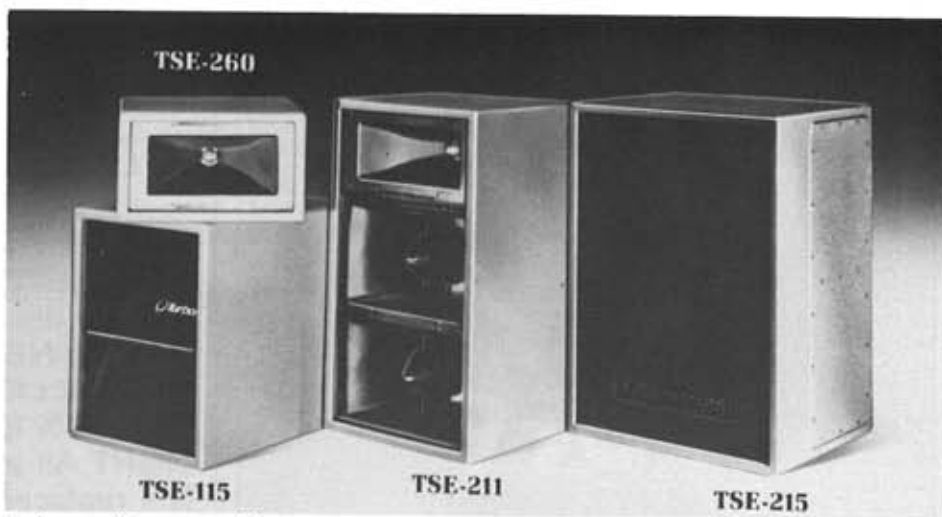
Joe Thornley has been appointed development and design manager at Lee Colortran Limited, the film, TV and theatre lighting manufacturers.

With responsibility for luminaire development, he is based at the company's Thetford, Norfolk factory, which has been re-equipped with sophisticated computer-controlled manufacturing plant over the past two years. Joe, 56, joins Lee Colortran from Strand Lighting at Brentford where he was product manager with responsibility for film, TV and theatre luminaires.

His move to the Thetford factory is, in effect, a homecoming. He began his career in the industry with Mole Richardson - initially at Acton - but then in 1964 as development manager at their Thetford factory. Following its acquisition by Berkey Colortran he took over UK marketing responsibility for the company until his move to Rank Strand seven years ago.



Joe Thornley - now with Lee Colortran.



Turbosound's four new cabinets.

New From Turbosound

Following the successful introduction of the TSE Installation Series of separated mid/high and bass enclosures, Turbosound has introduced four new cabinets to further expand the system's flexibility. They are the TSE-260 high frequency, TSE-211 mid/high frequency, and TSE-115 and TSE-215 bass enclosures. With the TSE Installation System, Turbosound introduced a range of easy-to-use, load-tested, flying hardware. Separate flying frames, designed to remove any stress from the enclosure itself, are available as part of this system and the range will be extended to include fittings for the new enclosures.

The TSE Installation System is now the most comprehensive range of enclosures available to the sound contracting industry, say Turbosound.

Early Award

Just six months after its launch, System Freestyle has gained recognition in the form of an award in the Alexal '87 Aluminium Design Competition. Alexal, run in conjunction with the Design Council, makes awards for innovation and design excellence in the use of aluminium extrusions.

Following a champagne reception at the Design

Centre in London, the presentations were made by John Banham, director general of the CBI.

As a welcome innovation in spaceframe design, System Freestyle has attracted much acclaim from designers, and is rapidly gaining a foothold in the discotheque industry, as well as making significant inroads into the exhibition and display markets.

For full details on the system telephone System Freestyle on (0480) 65212.

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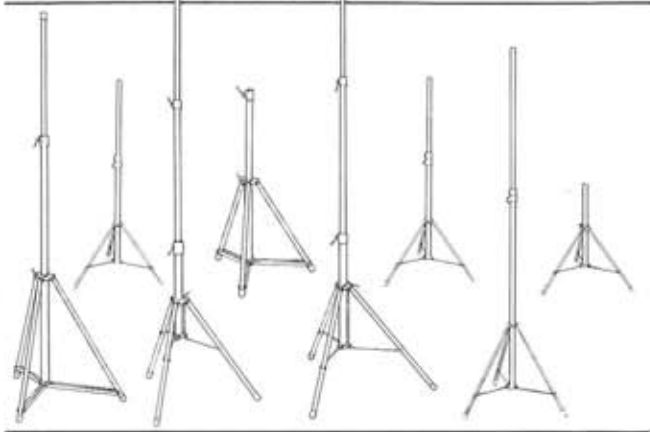
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Tel: 01-390 0051/01-390 4841 Fax: 01-390 4938 Telex: 892337 (CELCO G).



One of Toa's CCTV cameras installed adjacent to the dance floor at The Palace, Blackpool. The camera contains an auto-iris and is mounted on an autopan base.

Dancing for the Cameras

A sophisticated closed circuit television system designed to monitor potential disturbances at a popular Blackpool nightclub has proved a major success. The Palace realised the need for a comprehensive surveillance system as almost every night it was reaching its capacity of 2,000. Owner Michael Pattermore commissioned Julian Wood Electronics of West Sussex to advise and co-ordinate the total installation during the conversion of the premises. "We were faced with the problem of monitoring movement on two large dance floors, a fifty seater restaurant and five bars," said Julian Wood. "Not only that, but we had to be aware of gangs collecting outside the nightclub in order to warn the staff at the doors."

A Sussex firm, Universe Electronics (Services Limited) supplied equipment which included 16 cameras, 7 monitors and a selection of special lenses all manufactured by Essex based Toa Electronics Limited. Advice on the overall design for the low voltage installation was given by Tony Barham, systems design consultant at Toa.

A decision was made to divide the areas to be monitored into three separate zones, which covered the first and second floors and the external doorways. The cameras on the first and second floors are fitted with an autopan facility and are located in strategic corners. It was vital that the external cameras were fixed on the turnstiles at the three entrances, all fitted with wide angle lenses and protective housing.

Each area has its own sequential switching and dedicated monitor which is located in the manager's office, and at any one time the pictures from the three areas can be switched into a video recorder which has its own monitor for playback.

"Our doormen also have the chance to view what is going on inside the club by placing three repeat monitors just inside the main entrances," said Michael Pattermore. "At the same time the security officer in the manager's office can see if any of our staff are letting people in without paying."

"There is always an inherent lighting problem in nightclubs due to the absence of overall light intensity," said Julian Wood. "The addition of auto-iris lenses to the Toa cameras enabled us to cope with the variations in light."

ABTT North at Grange Arts Centre

A leaflet giving details of dates, times and seminars is included with this issue of L+SI. Over 40 exhibitors haven taken space, and admission to the event, which runs from Thursday 29th October to Saturday 31st October, is free. Seminar speakers include Francis Reid, Philip Clifford, Fred Bentham, Malcolm Armstrong and David Wilmore.

Conference on Training

During the event, and independent of the ABTT, several well known names have been invited to speak at a conference on technical training which has been arranged for the convenience of the location. Organiser Graham Walne's own paper will aim to stimulate better coordination between existing training bodies and employers.

It will take place at the Oldham College of Technology at 2.30 p.m. on October 30th. For further details telephone 01-638 9940.

CLEVER CONNEXIONS



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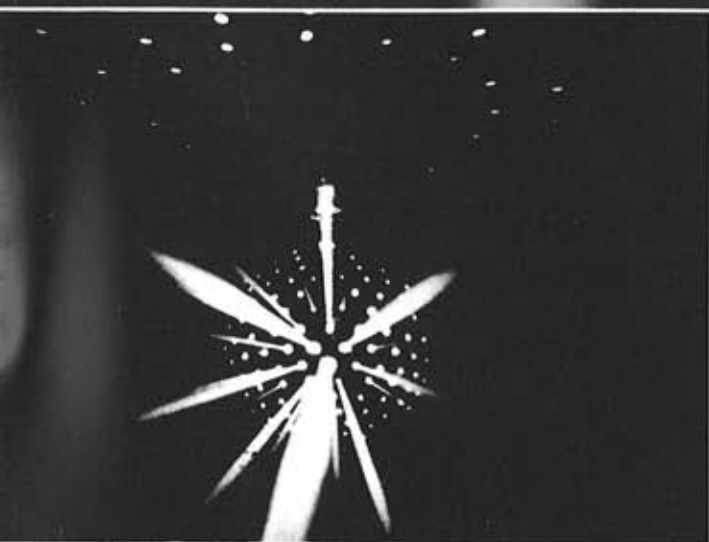


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Minifutura Pinball



The Minifutura Pinball in action.

Another M33 central lamped unit which is again surprisingly effective at its budget price. Multiple miniature rays of light radiate from the ball in all directions, and the revolve motor can then spin the rays around the venue.

F.A.L. Italy

Ventaglio Fanning Beams

This unit is currently a best seller and deservedly so – a remarkable effect for a budget price! A centre mounted M33 24 volt 250 watt lamp projects through lenses, producing a radial fan of surprisingly powerful light spikes, which scan back and forth through approximately 120°. The Ventaglio can be mounted in any position at any angle – even on moving light rigs!

NEW

Ventaglio Musicolour

This version of the Ventaglio scans in the opposite plane to the standard unit, and has coloured beams which change colour automatically to the beat of the music! An inbuilt microphone means that no additional connections are needed to achieve this.

See the Ventaglios in action on the Avitec "Grandstand" Light and Sound Show '87

The complete F.A.L. Italy stage and effect lighting range is shown in Avitec's comprehensive 87/88 colour catalogue, available on request.

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Different Route Same Destination

The Lighting Story of two new major up-market Discotheques

Two major new up-market discotheques have recently opened in areas of the country where starting up a new business at the present time would give many operators nervous spasms.

Aberdeen's 'Zig Zag', complete with the first lighting installation controlled by the new 'OSKA' system, is the City's latest hot spot, despite the down-turn in the oil business, and at Stockton in the heart of depressed Cleveland, the ultra-plush 'The Mall' is also proving that if you do it right, you can still pack the people in, despite the economic doldrums.

Tony Gottelier took on the Zig Zag project and Andrew Morris of Avitec had the job of producing something original and different for The Mall.

Oska, Pulsar Light's revolutionary new on-screen, touch-sensitive multi-channel lighting desk, has taken control of its first major club lighting scheme - at Zig Zag in Aberdeen.

Since the system was first reviewed in L&S's August issue, a number of enhancements have been made including the decision to launch a Foundation model on to which more sophisticated versions will be developed with add-on packages for the rock-n-roll and theatre disciplines. "The Foundation unit has every facility for the discotheque," explained Pulsar's Ken Sewell, "in fact we have already issued our first bulletin detailing various improvements, including the ability to assign the fader unit to control speed or dimming as required."

Zig Zag is the brainchild of local entrepreneurs George Stewart and George Tester who, even before the recent downturn in the oil price, saw the need for a totally different kind of operation from Gabriels, the highly successful off-street bar and nightclub which they had originated three years previously. "Gabriels had a reputation for its music policy and unique style," said George Stewart. "What we wanted was a substantial high street location from which we could provide the same atmosphere to a wider audience at a lower cost per head."

Their formula was to combine a stylish café bar called Ici, which was to become the epicentre daytime and early evening hangout for trendy Aberdonians, and combine this with a discotheque, albeit semi-detached, on a larger scale than previously to enable a high volume middle-price policy to operate.

It was decided to get Ici firmly established first to enable Stewart and Tester to concentrate fully on the discotheque. At this stage, with Ici already an instant success, they

were able to call in lighting designer Tony Gottelier who had devised the much acclaimed lighting scheme at Gabriels.

Gottelier felt perfectly at home with the plan to go for a minimalist interior and found his clients totally in sympathy with his concept of a theatrically inspired lighting scheme emphasising colour, beam variations and orchestrated movement. "We all agreed that we were bored with uncontrollable whizzing and whirring gizmos," is Tony's way of putting it, "and the clean background of such an interior provided a perfect environment for the lighting to make a loadstone contribution."

In particular, considerable emphasis was to be placed on using effects to emphasise the decor, and this strikes the visitor immediately on arrival in the downstairs lobby. A single slab of clear glass forms the reception desk emphasised by a column of iridescent blue light provided by a 250W SN discharge lamp housed in a Coemar Forté overhead, just one of many such sources used for similar emphasis elsewhere in the scheme.

As you reach the upper lobby a sheer black mirror running the full length of the bar provides a reflected vision of six snaking lines of neon framed by the doorway. These flowing curves in red, turquoise and violet are used as a device to link the bar lounge with the dance area from which it is structurally separated. This effect is further amplified by two back lit glass pavements which span the two areas. These were realised by back lighting numerous rectangular sandblasted glass panels using architectural strips to allow dimming down to a warm level.

Questioned about these main decor effects, Tony Gottelier told L&S: "We chose discharge lamps for the stark quality of the light they provide which fitted perfectly with the minimalist decor. The pavements, which were inspired by Katherin Hamnett's walkway to her Kensington shop, feel right in tandem with the neon and both fit exactly into the overall concept while also fulfilling a useful function."

When it came to the dance area, Gottelier aimed to achieve an overall theatrical effect by using only controllable light sources and without a moving rig in the conventional sense. The light show makes full use of the different levels and angles starting with a surround groundrow of linear floods, up to side bars of 1000W ellipsoidals with controllable iris and Pancan Series Three colour heads, across to bars of Coemar Fortés overhead.

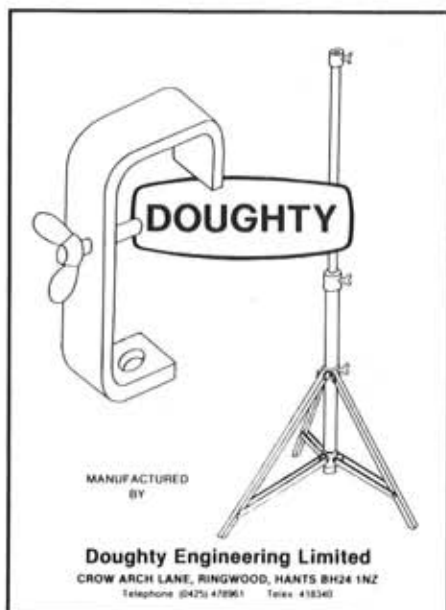
Other driven sources include two banks of Furze luminaires, adapted by Peter Wynne

Willson to 500W SN Tin halide with gobo changers, colour wheels and positional beams, which form the central attack of the light show.

Unusually, neon has been set into the dance floor behind protective glass strips to provide some early-evening colour and a general lift to the look of this floor. Elsewhere a touch of humour has been introduced by the occasional glimpse of an astral neon. Described by Gottelier as 'Heavenly Bodies' there are suns, stars, planets and even a crescent moon complete with sardonic face. He has also reintroduced the 'Lightning Strike' which had been so effective in his earlier schemes. 16 pieces of three dimensional blue neon have been freely hung at different levels to spiral into towards the centre of the dance floor. Driven from Oska by a 40 millisecond, 16 step one-cycle-only chase, the effect is surprisingly realistic especially with strobes programmed into the last step.

In view of Tony's reputation with moving rigs, it is perhaps interesting to record that the only concession he has made in this direction is six horizontal lighting bars which fly in and out at the speed of theatrical flats. "I liked the feeling of high speed drops so much, solely for their effect and I had been trying for a while to find a way to achieve it safely in a discotheque environment. Eventually I gave the problem to Nick Searle at Lynx and he came up with precisely the solution I had been seeking. By using frequency controlled a.c. motors we were able to achieve a stable drop of 1 foot per second and 'soft' deceleration which minimises any shake."

Asked to be specific as to Oska's role in the scheme Tony Gottelier told us that in his view it was absolutely pivotal. He points out that when so called intelligent light sources are used it is essential to be able to coordinate and integrate them into the overall show. In the case of Zig Zag this would have used up a further 80 or so additional channels on top of the 96 conventional dimming



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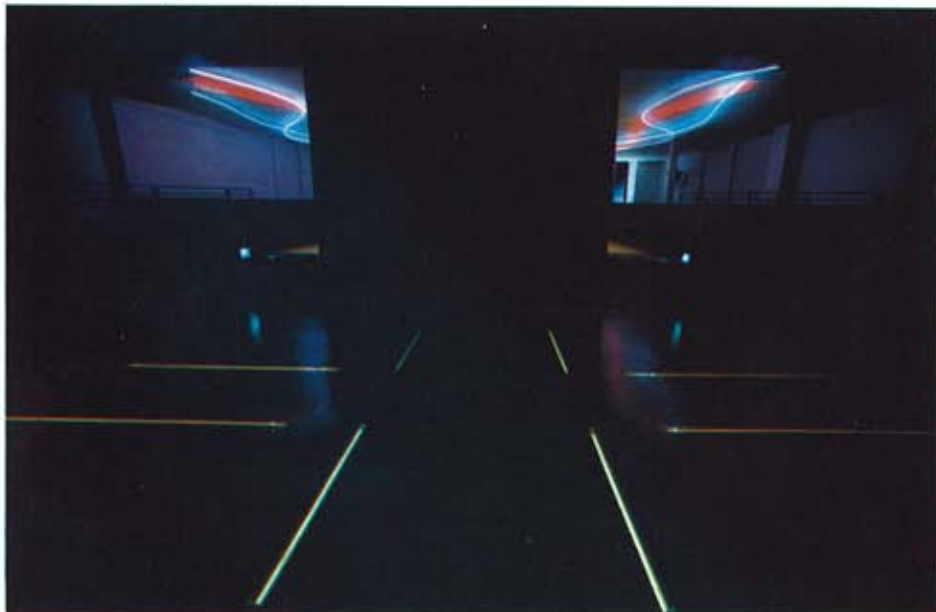
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Tin halide 'atmosphere' at Zig Zag.



Some of the neon set into the dance floor at Zig Zag with a view of the flowing neon lines from the main bar area.

and switching circuits. Not a practical proposition for a rock desk or any conventional control system, is the way Gottlier sees it. "To be able to program and control all these effects in the same format and from the same source gives the operator a degree of flexibility hitherto unobtainable," is the way he describes it.

The light show is further boosted by a Laser Systems' Magnum controlled twin blue/green 4W argon laser based on the Innova 90 and a Barcovision video projector.

Clearly such investment is an indication of faith in Aberdeen's ability to survive the turbulence of the oil market and a belief that if things are done in a certain way the public will support you no matter what. If Saturday night in Zig Zag is anything to go by, the proprietors, the Georges Stewart and Tester, have proved a point.

As for Oska, it is obviously at the start of its provincial tour but informed sources have it that it will not be long before it 'transfers' to the West End.

Moving down the East Coast, 'The Mall' project in Stockton, a conversion from a cinema, had to be approached in a very different way. If the popularity of the venues is any yardstick, both Zig Zag and The Mall are highly successful, but the route to achieving The Mall's billing as "one of the best clubs in the country" (Disco Mirror) was fast and furious when it came to installation of the lighting. And this affected the way in which Avitec had to approach the design.

They won the contract competing with 12 other companies on open tender. "We were approached direct on design," said Tony Kingsley, "and decided to put in a bid when we found out we were not competing with any of our suppliers. And we feel we were particularly successful on a design basis."

Man in charge of the project was sales director Andrew Morris. Plenty of time was available for the design of the lighting, but it was apparent that owner Javed Ahmed would allow very little when it came to the actual installation. Therefore the scheme had to make use of readily available equipment, and in the event Andrew Morris had just 12 weeks to sow up the details and get the project into operation.

"We used readily available items to get a good result," he told L+SI. "It involved clever programming with good multi-use of effects - standard products put together with a high degree of skill. We feel it was spectacular value for money and lighting effects per pound spend."

There are two rigs at The Mall, one covering the dance floor and a smaller one taking care of the stage area. The main rig, in gold Trilite, carries a host of effects with the centre-piece a Kremesa Krypton mounted on an elevator, and capable of hiding itself in a gold covered tube or chimney. Outlined in neon the rig also has 16 arms, 12 of which are hinged, eight pivoting from the centre and 4 from the outer octagon. The remaining four stay static, giving the rig rigidity and also providing an installation point for various effects such as helicopters that need a stable mounting. Neon on all 16 arms has 16 dedicated channels controlled by a Mode Unit 16 - giving limitless combinations.

The small rig is hinged in a way that enables it to move to cover the dance floor for purposes of colour wash and so on, giving additional flexibility to the lighting designer.

Control is by Zero 88. A Mercury and Touchlight look after lighting on the main rig



The Mall, Stockton - a high charge of lighting energy amidst a venue of outstanding luxury.

whilst a Lightmaster 1200 takes care of the stage rig. For effect, Avitec can be credited with the first installation of the JEM 428 Modular Fog System. The sound installation

was by Peavey Electronics.

The venue is highly personalised to the ideas of its owner, Javed Ahmed, and no expense has been spared on producing the

most elaborate and plush of discotheques - about £3m in total, we understand.

"It has a real depth of luxury," said Andrew Morris.



Dance floor at Zig Zag featuring the flying pinspot battens.

Rangers team up with Technology

A multi-million pound investment programme is transforming the facilities at Ibrox Park, Glasgow.

A great deal has happened at Ibrox Park, home of Glasgow Rangers, over the last two years. Since 1985, average attendances have risen dramatically - this season gates are up by as much as 32,000 for the equivalent fixtures of two years ago. Improved performances by the Rangers team - they won the Scottish Premier League Championship last year - partly explain this dramatic increase in attendance figures.

But the turn around in Rangers' fortunes must be attributed primarily to the multi-million pound investment programme that chairman and chief executive David Holmes has implemented since he joined the club in 1985 - an investment which has not been confined merely to expensive new signings such as player-manager Graeme Souness, but also to the extensive redevelopment of the stadium complex itself. Glasgow Rangers is one of the first football clubs in the UK to recognise that new technology has an important role to play in enticing crowds back to the grounds.

The redevelopment has already included the installation of one of the most sophisticated floodlighting systems in the world, as well as the conversion of the entire length of the second level of the Govan Stand into a special club for supporters; the building of a brand new Social Club next to the stadium; and the complete refurbishment of various executive suites within the main stand. The replacement, currently in progress, of the stadium's ancient horn speakers with a sound system worth £200,000, completes this impressive list.

The new standards set by Rangers have not gone unnoticed or unrewarded by the Sports Council. Recognising the inroads that the club has made into creating a safe and technically sophisticated environment for large crowds, they have contributed a generous grant to the improvement of Ibrox, amounting to between 50 and 75% of costs incurred. In addition, McEwans, impressed by the club's forward-looking management policies, are sponsoring Rangers to the tune of £1 million.

Not surprisingly, Ibrox Park is now the most modern ground in Scotland, with a total capacity of 45,000 (36,000 seated and 9,000 standing) and a range of facilities available to sponsors and supporters that would be difficult to match anywhere in the UK.

The management at Rangers have made full use of new technology to provide sponsors and supporters with the best possible environment for watching football and enjoying all the associated social activities that now form a central part of the club's entertainment programme. Bill Smith, recently appointed by Rangers as technical and communications executive, has been responsible for co-ordinating and, in many cases, designing the new technical improvements at Ibrox Park.

Bill began his career running a mobile discotheque and in 1968 he founded Night Flight, the Glasgow-based sound and lighting



Bill Smith, technical and communications executive for Rangers F.C. and senior partner of Night Flight.



Main Stand/Govan Stand entrance at Ibrox Park.

installation firm. In addition to installation work, the company also handled the PA systems for concert tours by groups ranging from Nazareth to the Nolan Sisters, all the time building a reputation for providing a top grade service.

Night Flight's connection with Rangers goes back some years, with Bill working as a stadium announcer at home games and a programme presenter for the local station, Radio Clyde. Not long after he landed the Ibrox contract, Bill gave up his regular afternoon slot at Radio Clyde and was soon offered the executive position at Rangers by David Holmes.

While not directly involved with the work on the new floodlighting system, Night Flight

helped to oversee the installation, completed just before this season began. Manufactured by Philips Lighting and designed by engineer Narren Makwana, the HNF0025 floodlights are composed of both wide and narrow beams - 136 narrow, 46 wide - and use 2kW metal halide lamps. The floodlights have been fitted in a horizontal line running the entire length of the Govan Stand roof, and on 4 rigs mounted on top of the main stand roof. Some floodlights in the Broomloan Road and Copland Road Stands - from the previous installation - have been kept as back-up lighting. The new system, one of the best of its kind in the world, has been greeted with much acclaim, especially by TV camera operators who have com-

mented that the illumination, in excess of 1200 Lux horizontally and vertically, is much better than daylight and removes the worry of continual camera adjustment.

On the other hand, the installation of the sound system for the stadium, which will be composed entirely of Bose loudspeakers, is being handled from start to finish by Night Flight. The installation, designed by Bill Smith, will involve the replacement of the old horn speakers - described by Bill as "pre-war, but which war I wouldn't like to say" - by 116 pairs of Bose 802's, arranged in strategically positioned clusters throughout the four stands. The first phase of the installation is currently underway, with the fitment of 20 pairs of 802s in the main stand due to be completed by November. The speakers in the Govan Stand will be installed by January, and in the Broomloan Road and Copland Road Stands by early summer. The enclosure area in the main stand has already been equipped with Bose 402s.

Bill explained his choice of loudspeakers: "I opted for Bose not only because they sound as clear as a bell, but also because they are completely fireproof and waterproof - an important consideration when so many people are gathered in the same place at the same time. Also, in the five years that I've used the speakers, I've never once had to use a guarantee claim!" The system will be operated from the main stand's control room, in which Bill will continue to work as an announcer on match days.

Interestingly enough, the control room also houses a comprehensive nine screen security system, used by police to monitor crowd behaviour. The system removes the need for the police to be in evidence in the stadium, thus reducing the possibility of antagonising supporters. This means of preventing crowd violence has worked successfully at Ibrox for some time now and is indicative of Rangers' willingness to make use of new technology.

As if to confirm the success of the system, a trust worth about £25,000 per stadium has now been set up to provide football grounds with video monitoring screens - all but one of the clubs in the English First Division are now using security systems similar to the facility at Ibrox.

Night Flight has also been responsible for installing the sound and lighting systems in the club's dining, entertainment, and conference facilities. Most impressive of these is the installation in the recently completed Edmiston House Social Club, a brand new complex built by the Lawrence Group at a cost of around £400,000.

Positioned right next to the stadium, the club provides nightly live entertainment for some 500 members. Facilities include a full sound and lighting rig for the dance floor, with a PA consisting of 4 Bose 802s and 2 302s; 14 colour TV screens positioned strategically throughout the club; 3 large video screens; a separate snooker lounge (complete with tables covered with blue baize to match Rangers' colours); a private lounge for the players, with volume-controlled 301 speakers; and a control room from which to operate sound, video, and lighting effects.

Some weeks ago a 350 metre cable was placed under the large concrete pathway between the club and the stadium, so that live sound and video coverage of home games can now be transmitted direct to the club.

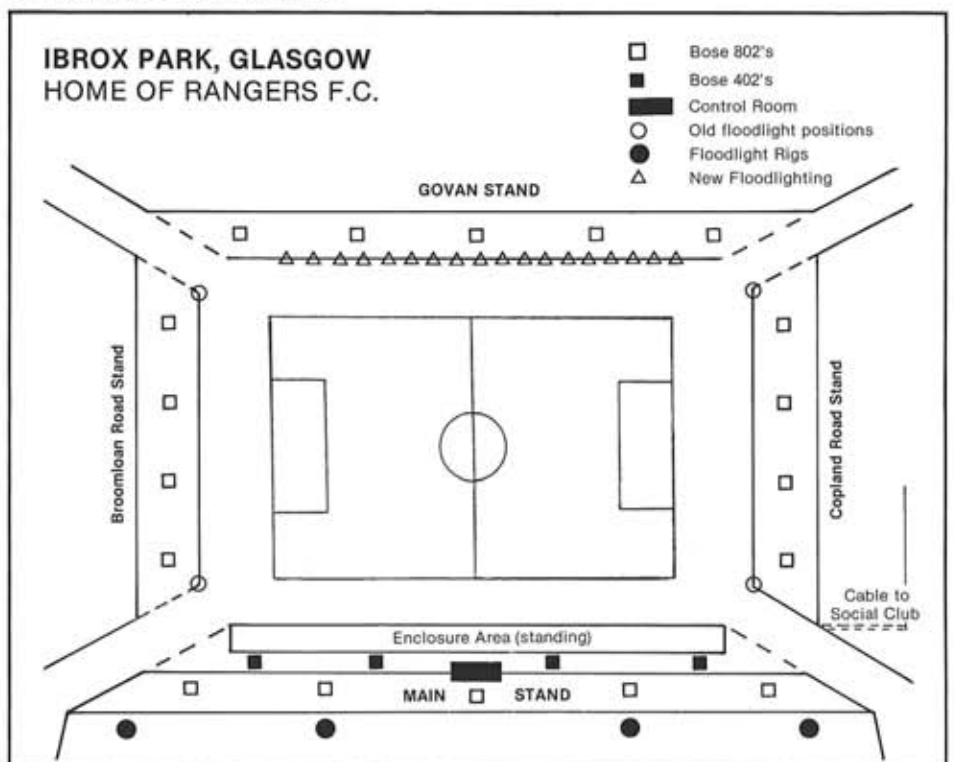
The Premier Club, which runs the length of the Govan Stand is also an impressive facility, especially as it is the first of its kind in the UK.



John Friday (of Cameron Video Systems - who co-ordinated the stadium broadcast on video screens of the Dynamo Kiev v. Rangers game live from the USSR) pictured in the Control Room in the Main Stand.



Edmiston House Social Club at Ibrox.



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Starvision/Ovesco Screens at Ibrox on September 16th set up for broadcast of the Dynamo Kiev v. Rangers match.

Although there are no seating areas, supporters can gather on match days in their own self-contained club, complete with bars and TV screens. Four pairs of Bose 301s, with special blue grilles to match the team colours, provide the sound.

In the main stand, Night Flight have completed the installation of two lavish executive suites, in which the subtle lighting is particularly effective - spotlights illuminating a special collection of Rangers' shirts, picture lights picking out portraits of famous club officials and players, and tasteful flush-mounted ceiling lights all contribute to the impression of a prosperous club with clear intentions as to the best ways to cater for the needs of sponsors and businessmen.

The range of facilities at Ibrox Park now represents a new era for football stadiums. It is now one of a kind; worthy of its fanatical supporters. And Bill Smith, a creative and inventive man with boundless energy, must take a good deal of the credit for the way the stadium operates today. It has been Night Flight's vision and technical expertise that has produced such successful facilities.

As Bill said himself: "Clubs can no longer

get away with merely providing pies and bovril at half-time - the fans expect much more than this and at Rangers we've tried to respond to their needs. David Holmes has put his money where his mouth is by investing in new technology to provide an environment more suited to the times - and it's paid dividends.

"The biggest problem in putting all the new projects together was convincing investors that we needed to try something different - the general attitude at first seemed to be 'we can't do it, because we haven't done it before'. But now that the new facilities are a proven success we've got plenty of plans for the future - particularly in terms of providing more audio-visual entertainment for the fans.

"We recently linked up with Scottish TV to broadcast the Rangers v Dynamo Kiev game in the Ukraine Republic Stadium direct to Ibrox. We showed the game on 2 huge video screens to some 15,000 fans gathered in the stadium - I'm pretty sure that this was the first time a football club has completed a feat of this kind."

Chairman David Holmes said of the venture: "We were looking upon the exercise more as an experiment to see what could and could not be done. It worked out better than we could have ever imagined, and we wouldn't hesitate to repeat it if and when the situation arose.

"Video and modern communications are the way forward to make it easier for the fans who wish to follow the club. Sometimes they have to spend 100 or 200 times the ticket price on travelling costs. Although we lost a lot of money on the video screen exercise, we would not hesitate to spend it again on any new innovation which would make the club more organised or assist our supporters to see what they want to see.

Inspired by the success of the stadium broadcast, Bill Smith is all set to begin new projects: "We've got plans to start our own internal TV station, so that we can relay games from the stadium to the club and provide fans with live match commentary and analysis. We'd also like to record the games, edit them, and make them into special video magazines for the supporters. Hopefully, we'll be able to record away games as well, using a special club video mobile."

Statistics compiled by the Football Association record that there are currently 24 million less spectators attending matches during the course of a league season than there were in 1948. But in spite of this depressing figure, Rangers have shown that the crowds can be brought back to the terraces - if clubs can raise enough capital to ensure significant changes. As Bill Smith remarked: "It's not just a case of solving the traditional dilemma of 'getting it right on the park', it's a case of providing a comprehensive service for sponsors, advertisers, and supporters every day of the week, as well as on Saturday afternoons."

Although initial costs are high, shrewd expenditure will pay dividends. Recognising that Rangers has a dynamic business policy, as well as a fine football team, sponsors are prepared to part with their money, convinced that Ibrox is a safe and prospering stadium. On the day I visited the stadium, officials from Tottenham Hotspur were being shown around the club's facilities. And I won't be at all surprised if Spurs, and many other top clubs, take a leaf out of Rangers' book and start using new technology to build the stadiums of the future.



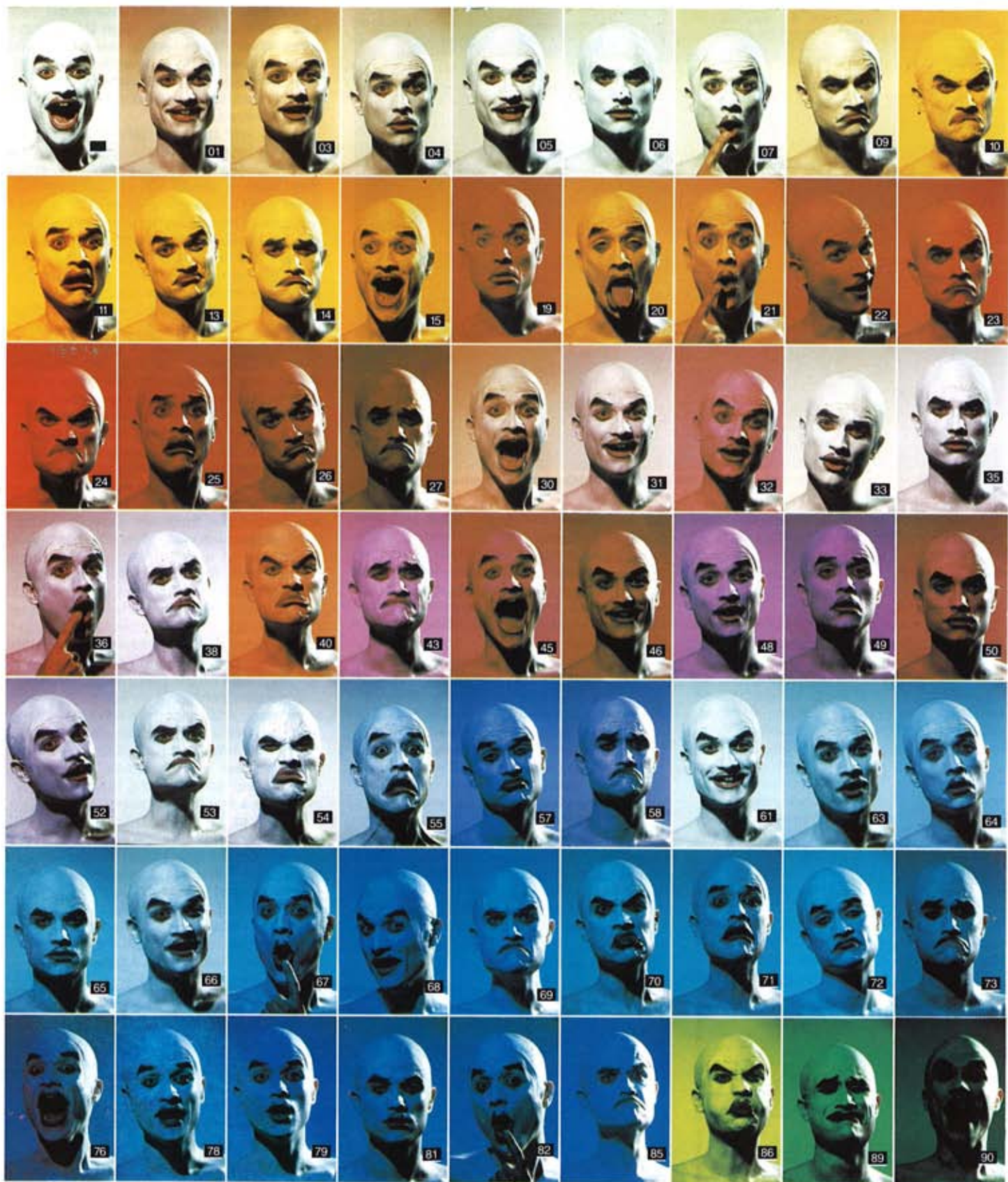
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Strand's Surprising Spectacular

Strand Lighting lay the foundations for their future success stories.

John Offord went to Bristol and Julian Williams to Stratford to see the first showings of 'Strand Spectacular' before it set off on a country and European-wide tour, complete with the company's massive new range of stage lighting products.

We all knew something was coming up at Theatre Royal Bristol the week-end following PLASA's Light and Sound Show in September - but exactly what hadn't been guessed. However clever or deeply delivered the prognostications, it turned out that no one I had spoken to in the industry had the faintest idea of how broad and sweeping the range of products Strand uncovered at Bristol would be, or had got close to guessing what they would come up with in the various sectors of stage lighting.

Even Strand's hard-headed dealers were suitably amazed. And it said a lot for the company's much improved teamwork that no leaks of information had reached the industry, and this despite some long field testing of various products.

So when the two day long presentation hit the 100 or so dealers, associates, guests and just two of us from the press, it came as one big gush - new product upon new product upon up-graded product until a complete family of lighting equipment for the next generation was filling the ancient stage of Britain's oldest theatre.

Strand was buzzing: the dealers were buzzing. Everyone was in awe of how so much had been achieved so quickly, secretly and expertly. It was as if the company had done an overnight Cinderella act.

Against this background I decided to leave the preparation of this feature for a couple of weeks to see how things had settled down after the initial euphoria. And I took a further trip to the Swan Theatre at Stratford upon Avon to witness another presentation - this time to lighting designers and technical directors - before getting down to editorial work.

Strand's 'Spectacular' range of new products and developments worldwide are detailed in the special supplement immediately following this article. It features the new Cantata range of 1.2kW spotlights, automated lighting systems, control systems, colour, lekos, studio and location lighting, and environ dimming and control. It was very evident from dealer reaction that Strand had listened hard to what the industry had been telling them, and that they'd come up with practically all the right answers.

Our two-page colour presentation from the Theatre Royal Bristol follows on pages 26 and 27, and Julian Williams talks us through the Strand range as he saw it launched at Stratford. I spoke to several dealers and designers about their response to Strand's historic launch, and finally we have included a complete listing of the UK and Europe Strand Spectacular tour dates, so you can go along and see for yourself.

John Offord

As Strand Lighting shapes up to take on the world with a quantum leap into the 1990's, they introduced us to a complete new product range. Together with their heavy capital injection and a new 'give the customers what they want' approach, Strand, who claim they now offer the most comprehensive range of products in the field, say they are taking the lighting for entertainment business worldwide very seriously. Consolidation of both UK, European and US products is the key while also updating their range of equipment.

Holding a new Leko high above his head in one hand, that lighting man for all ages, Francis Reid walked us through the new range from Strand at the Swan Theatre. Almost 20 years on, he again had us clambering into our seats as he did at Strand's West End demonstration theatre beneath the then HQ of Strand Electric's offices, putting the equipment of the day through its paces.

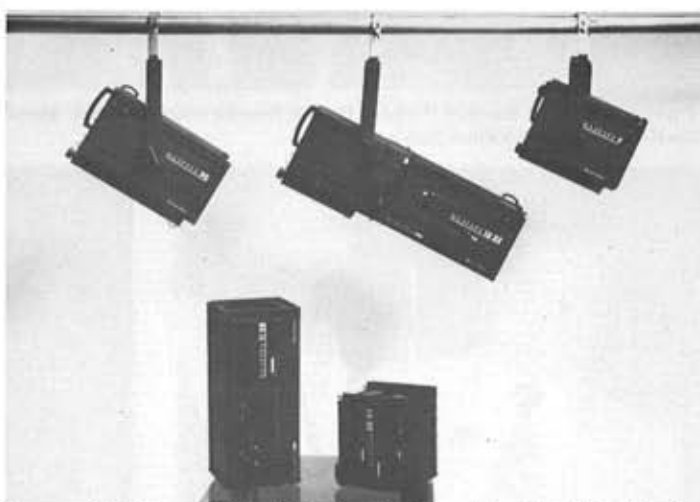
From Strand's bag of goodies came Action 24, a 24-way manual controller with 99 memories, allowing memory storage at the Tempus end of the range. They have introduced two new boards to fit in between the M24 and Gemini: Celebrity Plus 2, a two-scene pre-set, offering dimmer/channel patching, two-wheel cross faders and disc storage, and Lightboard M. Also now on offer is the aesthetically stale though highly proven US



Strand Lighting's new managing director Michael Jukes (left) with John Bradley, the RSC's technical administrator.



'Action' - Strand's exciting new single scene lighting control with basic memory and effects.



The new Cantata range: Cantata F, Cantata PC and Cantata 11/26 with alternate 18/32 and 26/44 lens tubes.



Cantatas get a close inspection on stage at the Swan Theatre.



Michael Collier presents the Quartzcolor range of products for studio and location lighting.



Francis Reid closely inspects Strand's new Cantata - numbers



Strand power - Bernard Bouchet (France), Russell Dunsire (sales director), Marvin Altman (president), Heinz Fritz (Germany), and Andrea Molinari (Italy).



Marketing manager David Brooks with 'Cantata' Galaxy 3 for up to set mast



Daryl Vaughan demonstrates the new Power Distribution System developed by Samuelson Lighting and now marketed by Strand Lighting.



Strand Filters - an improved and expanded range has been launched.



Finale time - P.L.C. perform to the lights of Strand Showchangers.



refer to beam angles.



Susan Dandridge introduces the new 'Action' lighting control system, with the help of Rod Bartholomeusz, Strand's export sales manager.



Arrival of the Strand Leko.



- Strand Lighting's top-of-the-range memory lighting control - is a customised modular system 999 channels and 1536 dimmers. Studio and theatre versions are available, with up to 20 pres with flash and inhibit facilities, advanced special effects, and a pan/tilt/focus control.



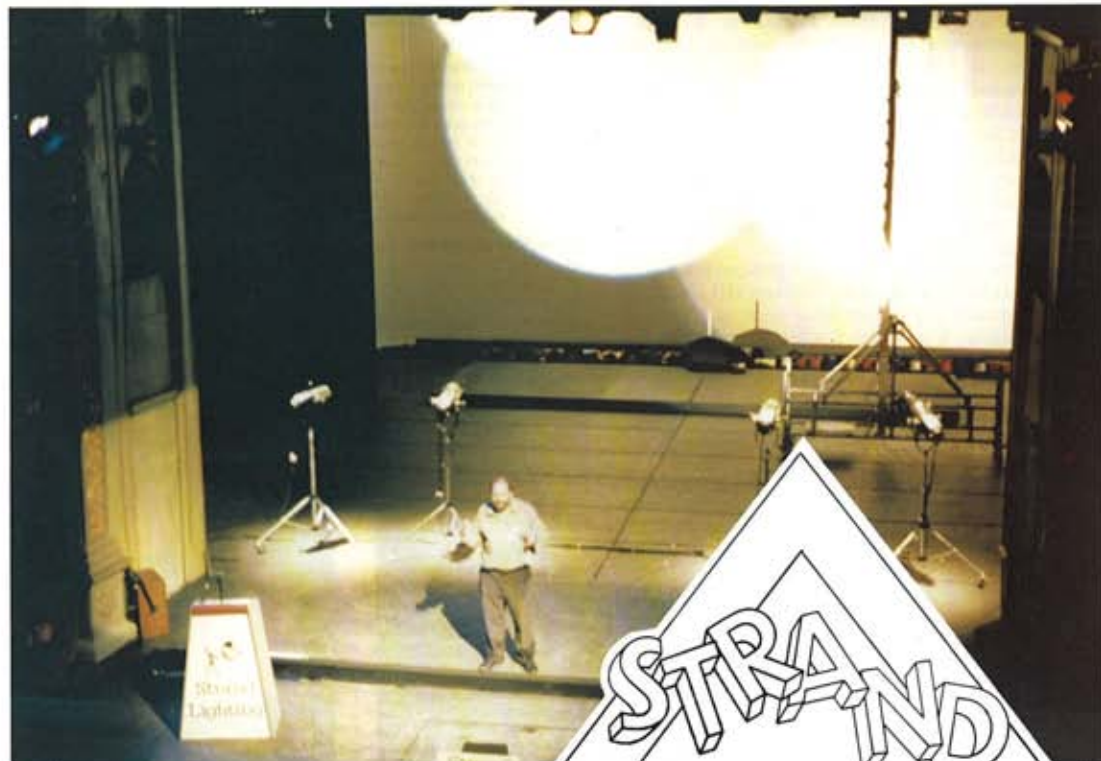
Strand's 'Celebrity' from Electro Controls in the USA.



Heinz Fritz of Strand Lighting Germany introduced a new high specification portable dimmer for TV studio use.



Clive Potter, head of lighting for BBC Television outside broadcasts.



Cantatas in action - Francis Reid on stage at Theatre Royal Bristol, the country's oldest theatre, aims to get the best out of Strand's new range of 1.2kW spotlights.

designed Mini Light Palette 2 and Light Palette 3 boards.

At the top end of their range they have completely re-brained the popular customised Galaxy, now model 3 - with excellent aesthetics and balanced for looks features with its revised Motion Control Display and new Fault Log Display offering us more sub-masters and wheels. But it's the smallest features which score here such as the C.C. button on the Channel Controller - a solo button that automatically zeros remaining channels other than those selected, and a lamp log facility which reports blown lamps or unplugged loads, blown fuses or a tripped CB.

However, it's the middle of the range system, Lightboard M, with completely new styling, which offers the latest innovations. Digital address, soft patching and rapid assign and access features are controlled from an entirely new keyboard on its two individual pre-set and 24 scene sub-master panel. Manual, timed, or effects masters and cross-faders are available - but no wheels!

Strand's 'across the spectrum' expanded colour filter range has been improved with the introduction of Cinelux colour and correction filters to complement Chromoid and Cinemoid. The range can now match any colour, and all are available from stock - a 24-hour despatch operation - and thousands of free reference swatch books are available.

The lightweight fixed profile Leko from the US has been added to the UK range and comes in 4 beam angles expressed in UK terms by their cut-off angle: 11, 18, 26 and 40 degrees respectively. All use axially mounted 1kW TH lamps, and are available in 220/240v. Also an iris kit and at last a 'high hat' (snoot) accessory are available.

The new Cantata range comes with three profiles, fresnel and prism convex lanterns with common lamp housing and twist-unlock detachable lens, and reversible (subject to swapping the colour runner assembly) tubes. The profiles are in three variable zoom focal ranges, in degrees of 11/26 at the narrow end to 26/44 at the widest with 18/32 in between. Strand have exclusively developed a 1.2kW TH lamp, allowing for utilising existing 2.5kW dimmer equipment, resulting in a 50% greater light output. A two position lamp base allows for compatibility between the use of an existing 1kW lamp or the new 1.2kW lamp.

But the highlight about the Cantata in most people's minds was the lockable, fully rotatable 'gate for any shutter position', with smooth blade movement!

The revolutionary pan and tilt inter-compatible new yoke, housing associated electronics, processor and motor drive comes as an interchangeable unit to convert the existing standard ranges of Strand lanterns into Precision Automated Lighting units (PAL). It offers an economic fulfilment of a designer's dream in a financially restricted environment with 'absolute precision and silent movement.' The system is operated for pan, tilt, focus or iris by a small dedicated 99 channel control unit and utilises a user's standard IBM PC with an associated software package and adaptor card.

But the real first here is the Lightscan intelligent pan and tilt luminaire with 400 watt HTI lamp and an on-board micro processor with digital communications. It provides 5 gobo patterns, an iris,

and mechanical dimming shutter Dowser, and will also carry a dual scroll colour changer. Claimed to be twice as bright as other intelligent units, at 20 feet it will produce 1600 f/candles.

The 99 channel, 250 memory Taskmaster console comes as a sophisticated automated luminaire control, available for stand-alone use (or for integration with the Lightboard M control board), for the par scan and light scan luminaires providing a combined pan or tilt Track Ball control facility with programmable speed of movement and colour change and chase facilities - and with wheels!

Never before has so much been presented by a manufacturer at any one time, at the same time claiming to offer 'the only right across the range' system of luminaires, colours and controls for the stage lighting industry. The hardest part for technicians today is keeping up with the pace of ever-changing technology. But Strand made sure everyone knew what they were about, and their new message was to offer us everything we are asking for and everything we could possibly want.

Julian Williams

Views from the Industry

Mike Smith, Northern Light, Glasgow
(Strand Dealer)

"The new range was exciting, and it was good to see the US technology available to the rest of the world and vice versa. Now we can have a broad sweep of lighting technology input rather than just single ideas.

"Whatever you want you can get it from Strand. The Cantata range looks particularly good, and the new Action 24 is a super little board with a great future."

Ray Scott, Sound Electronics, Newcastle
(Strand Dealer)

"We were taken aback at the size and scale of the presentation. Strand have come up with what many designers and others in the industry have been asking for a very long time. For the future, the moving light systems look very interesting.

"As a dealer I was very pleased. Action will be particularly good for the educational market - it's something we've wanted for two years now. There was something for everybody."

Peter Coleman, Midland Theatre Services, Birmingham (Strand Dealer)

"You have to say it's the first launch for a very long time where we've actually had new equipment, rather than up-dates. There was Cantata with the new lamp, and Lightscan for those who can afford it. It was the best presentation Strand has ever done - they've done some terrible ones in the past!

"Lightboard M is very relevant against its competitors in its field, and I am sure it will be a big mover in its market area. We are taking a full range of Strand colours into stock."

Hugh Leslie, LHS Limited, London
(Strand Dealer)

"Cantata and the Action control are proof that Strand are really determined to listen to the designer and technician and then give them the best tools for the job. The Cantata's rotating gate is a winner. Now you know why I was so pleased to be an exclusive Strand distributor. Who needs anyone else! - they've got the lot!

"You can tour the world and be guaranteed that a Smoky Pink (Cinelux 427) bought in the UK can be perfectly matched anywhere else in the world."

Mike Odam, production electrician

Currently on tour across Europe with a new production of 'Song and Dance', Mike Odam told L+S how amazed he and others were at the time and money Strand had spent in getting the presentation and people together.

"At long last they seem to have listened to what we re-

quire, and taken into account how equipment had to be handled when up in the air. They're certainly getting their act together. They are listening to technicians and making their engineers come up with what we want, rather than the other way round."

Jenny Cane, lighting designer

"The whole idea of getting people together in this way was great. In the new Cantata range the PC looks very impressive, and the light quality of the fresnel looks good. It will be interesting to see how the 1.2 lamp life matches up to a lot of use and long burning, but I expect they've done their homework.

"All in all it is a good range. I've always liked the American desks - I love Light Palette - but Lightboard M and Action both look very interesting."

Strand Spectacular Roadshow (UK and Eire)

CAMBRIDGE

The Small Hall, The Guildhall, Market Square.
Tuesday 29th September

BOGNOR REGIS

Alexandra Theatre
Tuesday 6th October

SOUTHAMPTON

Mountbatten Theatre, East Park Terrace.
Friday 9th October

BRISTOL

New Vic Lower Foyer, King Street.
Tuesday 13th October

CARDIFF

The Princess of Wales Rehearsal Room,
Welsh National Opera, John Street.
Thursday 15th October

DUBLIN

The Conference Room, New Ormond Hotel,
Upper Ormond Quay, Dublin 7
Tuesday 20th October

BELFAST

The Drama Centre, Rupert Stanley College.
Thursday/Friday 22nd/23rd October

BIRMINGHAM

The Drama Studio, Birmingham Polytechnic, Edgbaston.
Tuesday 27th October

OLDHAM

ABTT Trade Show North, Grange Arts Centre, Oldham
28th/30th/31st October

NEWCASTLE UPON TYNE

The Arts Centre, Westgate Road.
Tuesday 3rd November

EDINBURGH

The Carlton Studios, Carlton Avenue.
Thursday 5th November

GLASGOW

Royal Scottish Academy of Music and Drama
Tuesday 10th November

Europe

OSLO 28th-30th September

BARCELONA (Sonimag) 28th September - 4th October

GOTHENBURG 5th/6th October

LISBON 7th-9th October

STOCKHOLM 8th-12th October

MADRID 13th/14th October

HELSINKI 15th/16th October

SICILY (Enna) 19th/20th October

PARIS 21st-23rd October

ROME 23rd-25th October

LILLE 26th/27th October

MILAN 27th-29th October

UTRECHT 29th/30th October

MARSEILLES 3rd-5th November

BRUSSELS (ACF) 4th-7th November

LYON 9th/10th November

THE HAGUE (NDT) 16th/17th November

COPENHAGEN 25th/26th November



Another busy scene on the stage of the Swan Theatre as the new Strand range makes its first public appearance.



Chris Wilcox (Crawley), Bill Graham (Harrogate) and Jenny Pullar (English Dance Theatre) take a close look at Lightboard M.



STRAND

SPECTACULAR

NEW PRODUCTS

AND DEVELOPMENTS

WORLDWIDE 1987-88



Strand Lighting

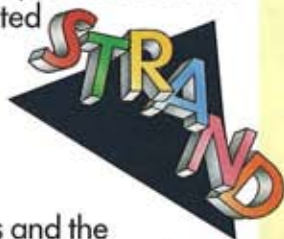
NEW PRODUCTS AND DEVELOPMENTS WORLDWIDE 1987/88

**It's the world's biggest
lighting show!**



Strand Lighting is the world's largest organisation specialising in stage and studio lighting equipment, manufacturing and distributing product lines for an international market.

Leadership depends upon continuous innovation, and today's new products must be technically highly sophisticated to meet new performance and operational requirements.



Strand has the resources and the 'knowhow' to keep ahead, and this brochure features some of the many new products and developments now becoming available.



NEW SPOTLIGHT RANGE

NEW AUTOMATED LIGHTING SYSTEMS

NEW LIGHTING CONTROL SYSTEMS

NEW FILTER RANGE

NEW STAGE LIGHTING DEVELOPMENTS

NEW STUDIO, LOCATION AND PORTABLE LIGHTING DEVELOPMENTS

NEW ENVIRON DEVELOPMENTS

NEW LAMPS

INTRODUCING CANTATA

New 1.2kW spotlights with advanced design features.

Cantata sets new performance standards in lighting for the medium to large theatre. Designed to succeed the popular Harmony range, Cantata luminaires feature a larger lens and new elliptical reflector in conjunction with the use of a newly-developed 1.2kW tungsten halogen lamp.

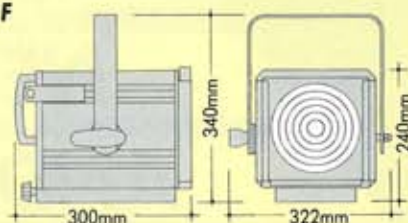
The result is up to 50% more usable light without resorting to higher wattage luminaires. The new rating also means better utilisation of the capacity of the widely-used 2.5kW dimmer packs.

For stocking simplicity and operational flexibility, the Cantata range has been developed with a common lamp housing to which are attached separate lens tubes to give a range of 3 new Profiles complemented by separate Fresnel and PC versions.

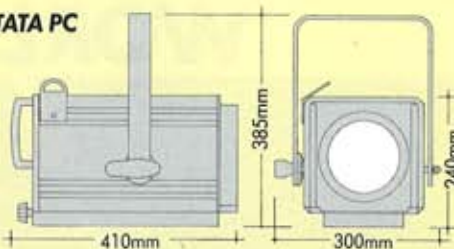
- Five luminaires to cover all requirements – fresnel, prism convex and three overlapping zoom profiles
- Safe and robust plug and socket connection – prevents accidental damage or removal in use but disconnects if lamp tray opened
- Fast action thumbscrew adjusts from flat field to peak in one rotation



CANTATA F



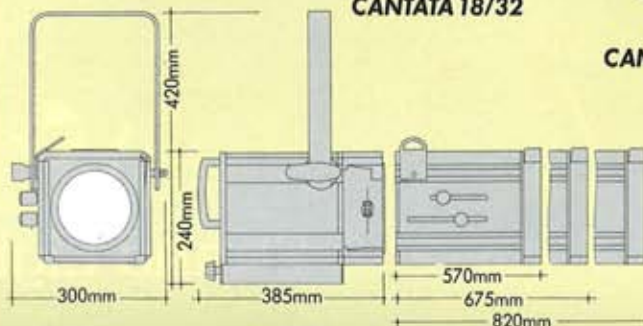
CANTATA PC



CANTATA 26/44

CANTATA 18/32

CANTATA 11/26



- New scientifically designed PC lenses
- Rotatable barn door for fresnel and PC versions

- 2-position lamp base accepts Strand's new 1.2kW lamp or conventional 1kW lamp
- Lamp height adjustable for optimum luminaire performance

- Suspension fork adjustable for centre of gravity – also efficient new locking mechanism
- Fork reversible for barrel or stand mounting

- Accepts iris and gobo accessories
- Lockable, fully rotatable gate for any shutter position
- Smooth shutter blade movement

- Secure yet easily detached rear lamp housing

- Smooth judder-free lens adjustment

- Standard colour runners

Product	CANTATA 11/26 1200/1000W Variable Profile with integral wire guard	CANTATA 18/32 1200/1000W Variable Profile with integral wire guard	CANTATA 26/44 1200/1000W Variable Profile with integral wire guard	CANTATA F 1200/1000W Fresnel Profile with integral wire guard	CANTATA PC 1200/1000W Prism Convex Spot with integral wire guard
Lamps	1200W lamp – RSE 29 1000W lamp – RSE 19	1200W lamp – RSE 29 1000W lamp – RSE 19	1200W lamp – RSE 29 1000W lamp – RSE 19	1200W lamp RSE 29 1000W lamp RSE 19	1200W lamp – RSE 29 1000W lamp – RSE 19
Performance based on RSE 29	11° peaky field 254,800 cd, ½ peak angle 7° flat field 161,750 cd, ½ peak angle 11° 26° peaky field 129,500 cd, ½ peak angle 10° flat field 47,000 cd, ½ peak angle 24.5°	18° peaky field 175,750 cd, ½ peak angle 8.5° flat field 95,000 cd, ½ peak angle 17° 32° peaky field 86,450 cd, ½ peak angle 12.5° flat field 38,000 cd, ½ peak angle 30°	26° peaky field 105,450 cd, ½ peak angle 13° flat field 53,200 cd, ½ peak angle 25° 44° peaky field 56,350 cd, ½ peak angle 16.5° flat field 17,320 cd, ½ peak angle 42°	SPOT – 123,250 peak cd ½ peak angle 7.5° ⅓ peak angle 16° FLOOD – 19,000 peak cd ½ peak angle 50° ⅓ peak angle 59°	SPOT – 206,300 peak cd ½ peak angle 4.2° ⅓ peak angle 8° FLOOD – 14,300 peak cd ½ peak angle 52° ⅓ peak angle 60°
Additional Lamps	RSE 90 RSE 70 T11	RSE 90 RSE 70 T11	RSE 90 RSE 70 T11	RSE 90 RSE 70 T11	RSE 90 RSE 70 T11
Accessories	Colour Frame Iris/Diaphragm Gobo Holder	Colour Frame Iris/Diaphragm Gobo Holder	Colour Frame Iris/Diaphragm Gobo Holder	Colour Frame Barn Doors	Colour Frame Barn Doors
Weight (Kg)	12.8	12	11	5.8	7.2
Carton size (mm)	930 x 400 x 440	785 x 400 x 440	680 x 400 x 440	552 x 400 x 440	625 x 400 x 440

STRAND SET THE PACE IN AUTOMATED LIGHTING SYSTEMS



The introduction of Strand's first **Showchangers** - remotely-controlled motorised luminaires - marked the beginning of a new era in creative lighting for **special effects** and professional performances.

As a result of intensive research, development in this exciting new field is rapid. Strand is now developing the **world's largest range** of fixtures and controls for automated lighting - from high speed colour changes for special effects to multi-functional luminaire programming with **high precision** and repeatability for the largest stage and television productions.

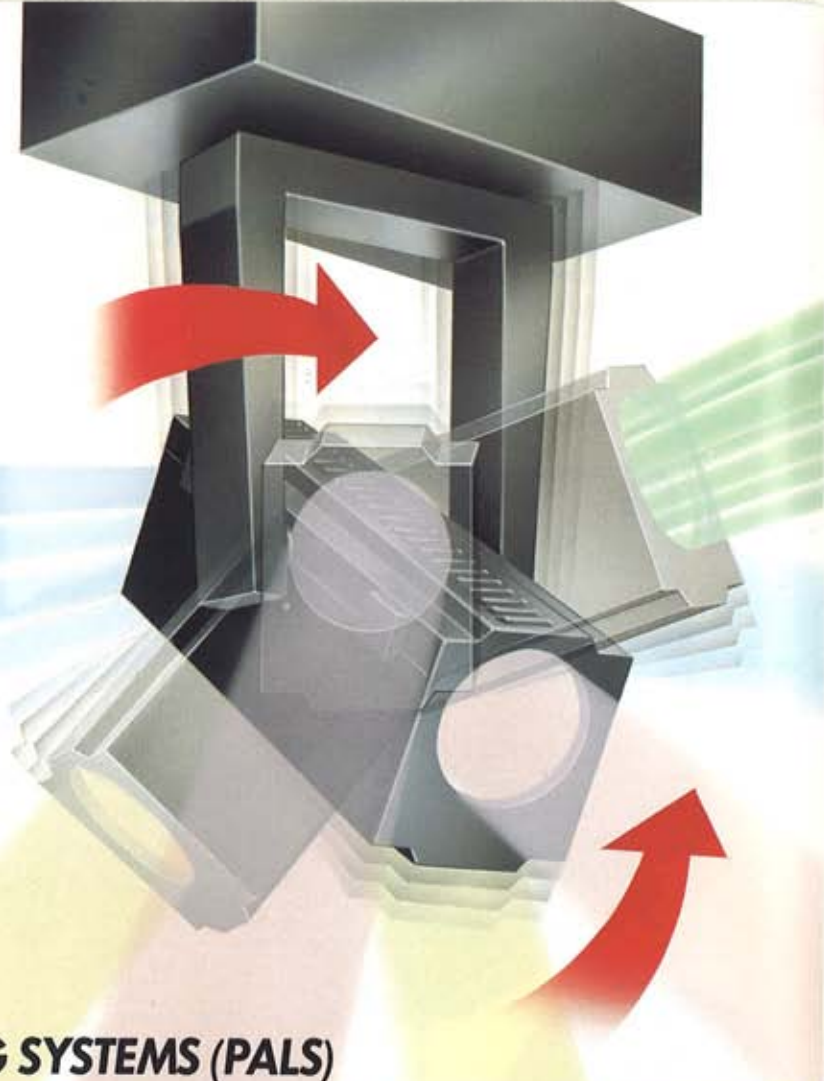
Whatever the international entertainment world needs tomorrow in automated lighting, Strand will be ready - with innovative ideas and the most advanced technology.

PRECISION AUTOMATED LIGHTING SYSTEMS (PALS)

Many professional luminaires in the Strand range can now be supplied as fully automated units. Pan/tilt motor drive assemblies, processor board and drive electronics are safely and compactly housed in the rectangular section steel yoke. These systems offer high accuracy and repeatability in the control of a range of movement and other functions, and can bring new economies and creative opportunities to all kinds of professional productions. Systems available now include the Cadenza range, Par 56 and 64 units, and Quartzcolor luminaires up to 5kW.



2kW Cadenza luminaire equipped for automated control. Functions available are pan, tilt and either focus or iris. Supplied with self-contained customised control unit, or special control module for incorporating into the new Galaxy 3 memory system.



PRECISION AUTOMATED LIGHTING SYSTEMS (PALS)

Luminaires	Pan	Tilt	Colour*	Speed (secs.)	Accuracy
PAR 56	330°	330°	10	2 - 45	± 1/8°
PAR 64	330°	330°	10	5 - 60	± 1/8°
1kW	330°	180°	10	9 - 60	± 1/8°
2kW up to 5kW	330°	180°	10	28 - 60	± 1/8°

* This feature is optional

Controls	No. of Channels	No. of Memories	Control Functions	Control Elements
PALS Control (Stand Alone)	700	Unlimited	Pan, Tilt, Colour, Iris/Focus	Keyboard, VDU
GALAXY 3	999	Varies by No. of Fixtures	Pan, Tilt, Colour, Iris/Focus	Keyboard, Wheels, VDU

SHOWCHANGERS, SYSTEMS FOR SPECIAL EFFECTS

New Showchanger products offer a versatile choice of facilities, from the Scrollers (colour changers in a variety of sizes) to the multi-function Litescan. Compact controls for stand-alone operation or incorporation into the Lightboard M console are available to suit the type and number of Showchanger units in use.

AUTOSCROLL

- Memory controller for Scroller colour changers
- 99 channels of control for any number of Scrollers
- 99 memories
- Variable speed control
- Autocycle function



TASKMASTER

- Controls all functions of movement and colour change for LiteScan, ParScan and Scrollers
- 99 Channels of control, unlimited Luminaires
- 250 programmable memories
- 12 programmable chase loops
- Trackball with Pan/Tilt selection
- Available in "stand-alone" or integrated Lightboard M consoles

SETSCROLL

- Economical manual colour change controller
- 12 channels
- 12 colours
- Variable speed control
- Autocycle function

PARSCAN

- Variable pan, tilt, colour change and speed
- Integral colour change system (3-16 colours)
- Utilises Par 64 1kW source



PARSCROLLER

- 3-16 colours
- Integrally mounted to new Punchlite
- Variable speed colour change



LITESCAN

- 400W HTI Lamp for brilliant performance
- Internal microprocessor with digital communication
- Pan:- 340° maximum rotation
- Tilt:- 320° maximum rotation
- Variable speed - point to point in 2.5 to 15 seconds
- Colour - dual 16 frame colour changer provides 32 individual colours or 256 in combination
- Focus - hard edge from 5 to 30 metres
- Gobos - five patterns and clear
- Iris - to blackout in 1 second
- Dowser - dimming shutter maximum speed 0.5 second

SHOWCHANGERS - SYSTEMS FOR SPECIAL EFFECTS

Luminaires	Pan	Tilt	Colour	Speed (sec)	Accuracy	Iris	Focus	Dowser	Gobos
LITESCAN	340°	320°	32	2.5 - 15	±3°	Integral	5 - 30m	Integral	5
PARSCAN	340°	220°	3 - 16	2.5 - 15	±3°	-	-	-	-
PARSCROLLER	-	-	3 - 16	2 - 15	-	-	-	-	-
SCROLLERS	-	-	3 - 16	Various	-	-	-	-	-

Controls	No. of Channels	No. of Memories	Control Functions	Control Elements
TASKMASTER	99	250	All of Litescan	Keypads Track Ball Wheels
AUTOSCROLL	99	99	Colour	Keypad
SET SCROLL	12	-	Colour	Keypad

CONTROL SYSTEMS THE WORLD'S BIGGEST CHOICE –

STRAND'S SUCCESSFUL GALAXY, GEMINI, M24 AND TEMPUS

Strand pioneered memory lighting control systems and has unique experience in this field. The extensive line-up of equipment available is unequalled anywhere for range of facilities and options, choice of operating philosophies and outstanding technical performance.

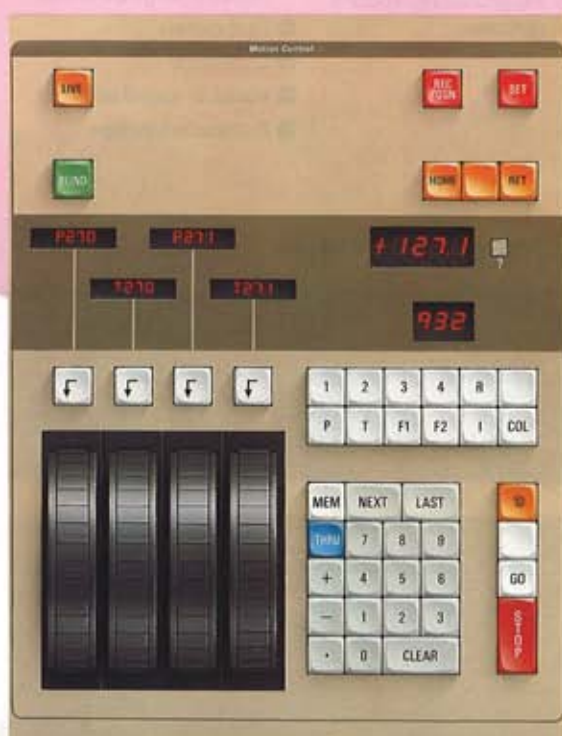
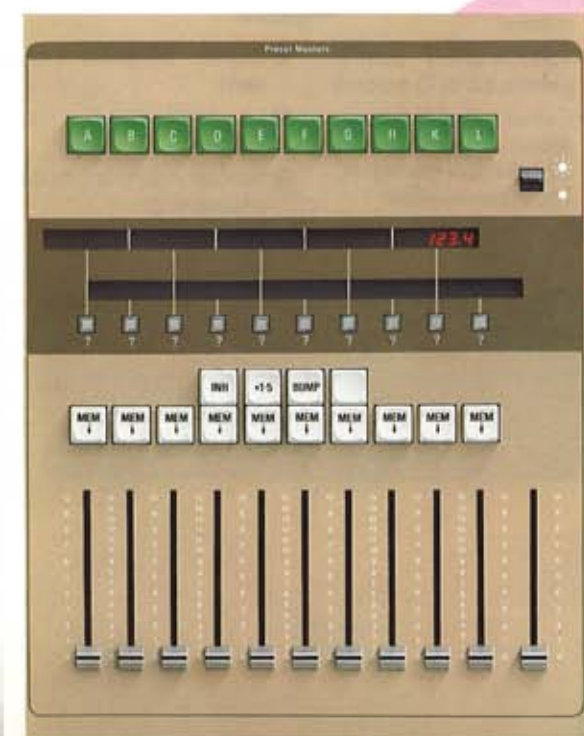
A number of additional systems have recently been introduced worldwide. These range in size and scope from the single-scene **Action** with basic memory and effects to the sophisticated top-of-the-range **Galaxy 3** which incorporates motion control for Strand's Precision Automated Lighting Systems.

There is a complementary range of high performance dimmers to suit the capabilities of all Strand systems, whatever the level of operation, including the new **ACT 3** and the **ACT 6** portable packs which are the perfect match for the new **Action** control.



GALAXY 3

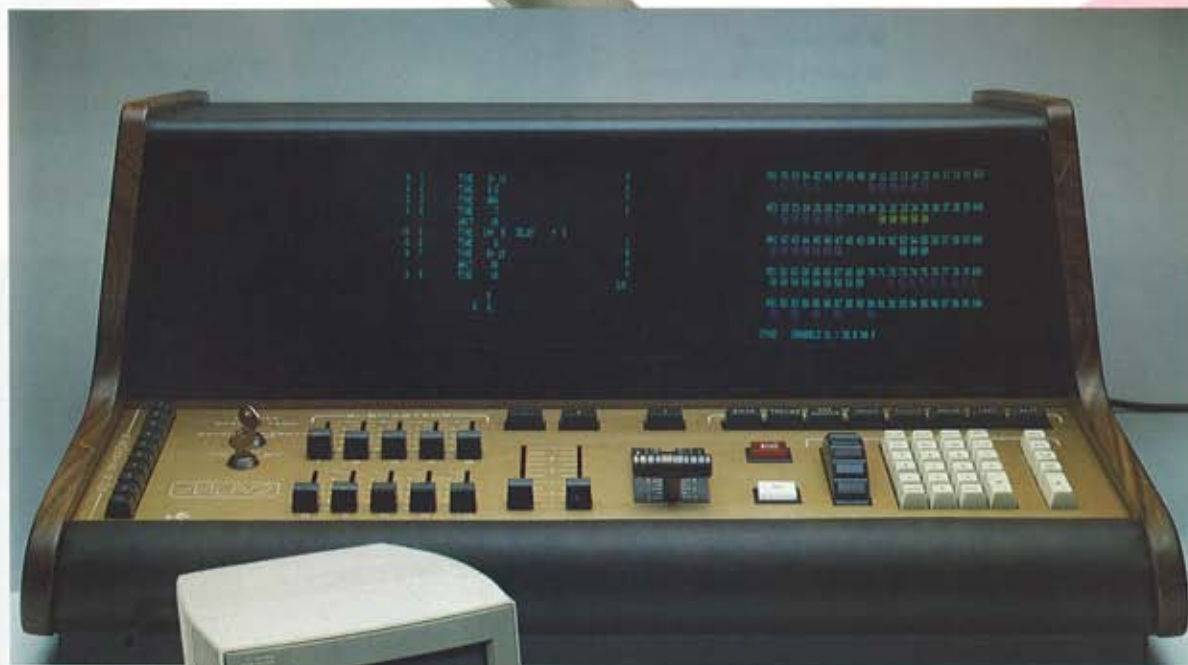
- Customised modular system for up to 999 channels – 1536 dimmers
- Up to 20 preset masters with flash and inhibit facilities
- Advanced special effects
- Pan/tilt/focus control module
- Studio and theatre versions available
- High resolution colour graphics
- Dual 3½" disc drive
- Colour change control
- Internal clock for time/date stamping of printouts
- Dimmer fault reporting
- Retrofittable to Galaxy 2



THE WORLD'S MOST ADVANCED TECHNOLOGY

LIGHT PALETTE 3

- 800 channels – 1536 dimmers
- Range of user-selectable options and defaults
- Enhanced submaster capabilities
- Simultaneous display of all playback and submaster operation
- Dual electronics for full tracking back-up



MLP2

- Controls up to 384 dimmers on 200 channels
- 10 fully overlapping submasters with bank loading facility
- Up to 100 special effects – up to 80 steps in each
- Integral dual-colour VDUs – self-adjusting to ambient lighting conditions



LIGHTBOARD M

- 192 channels of control, 2 scene preset configuration
- 384 dimmers expandable to 768
- 24 overlapping scenemasters with selectable flashbuttons
- Two playback crossfaders, timed or manual
- Two special effects faders to control up to 200 effects each with up to 84 steps
- Colour VDU
- 3½" disc for library storage
- Optional printer and remote focus

CONTROL SYSTEMS THE WORLD'S BIGGEST CHOICE

CELEBRITY PLUS 2

- 2-scene preset with optional memory module
- Up to 125 channels patchable to 512 dimmers
- Optional special effects module with 2 to 12 channel chase



- 3 1/2" disc for library storage
- Up to four simultaneous fades with cue linking and automatic follow-ons

ACTION

- 24 manual control channels
- 99 memories
- Split crossfade with time control
- Independent master
- 9 types of effects including chase, random flicker and sound to light



- Up to 48 steps in each effect
- Speed and level control of effects
- Multiplex output
- Battery back-up

Features	GALAXY 3	GALAXY 2	LIGHT PALETTE 3	GEMINI	MLP/2
No of Channels	● 999	● 768	● 800	● 180	● 200
No of Dimmers	● 1536	● 768	● 1536	● 384	● 384
No of Memories	● 200 Average	● 200 Average	● 200 Average	● 200 Average	● 150 Average
Electronic Patch	● Full Proportional	● Geographic (1 to 1)	● Full Proportional	● Full Proportional	● Full Proportional
No of Playback	● 8 Wheels (Theatre) ● 4 Faders (Studio)	● 8 Wheels (Theatre) ● 4 Faders (Studio)	● 2 to 6 Operator Selectable	● 2 Split Crossfaders Timed or Manual	● 2 Single, 1 Split Timed or Manual
No of Submaster	● 20 Preset Masters with Inhibit & Flash	● 10 Preset Masters	● 9 to 13 Operator Selectable	● 8 with Inhibit & Flash	● 10 Pile-On with Group Loading
Special Effects	● 99 Effects ● 256 Steps ● Level & Speed ● Over-Ride	● 99 Effects ● 256 Steps ● Level & Speed ● Over-Ride	● 99 Effects ● 80 Steps ● Submaster Controllable	● 99 Effects ● 256 Steps ● Level & Speed ● Over-Ride	● 99 Effects ● 80 Steps
VDU's	● Up to 4 Discrete Colour	● Up to 4 Discrete Colour	● 2 Discrete Colour	● 1 Colour	● 2 Colour
Library Storage	● Dual 3 1/2" discs	● Dual 8" discs	● 3 1/2" disc	● 3 1/2" disc	● 5 1/4" disc
Back-Up	● Programmable Memory Back-Up or Dual Electronics	● Programmable Memory Back-Up or Dual Electronics	● Lightboard M or ● Dual Electronics ● Full Tracking	● Dimmer to Faders Patch	● Dimmer to Submaster Patch or ● Full Tracking Back-Up
Options	● Printer ● Stalls Control ● Hand Held ● Remote Control ● Remote Monitors	● Printer ● Stalls Control ● Hand Held Control ● Remote Monitors	● Printer ● Remote Desk ● Hand Held Control ● Remote Monitors	● Printer ● Stalls Control ● Hand Held Control	● Printer ● Hand Held Control ● Remote Desk Control
Additional Features	● Alpha Keypad ● Pan, Tilt, Focus, Module ● Internal Clock ● Dimmer Fault Reporting ● Learn Profile ● Channel Format ● Profile ● Auto Mod ● Record Track	● Alpha Keypad ● Auto Mod ● Record Track ● Profile ● Learn Profile	● Alpha Keypad ● Profile ● Channel Format ● Bankloading of Submasters ● User Selectable Default Fade Time	-	-

– THE WORLD'S MOST ADVANCED TECHNOLOGY



Economical portable dimmers – ideal for touring and smaller productions

ACT 3

- Three 25 amp dimmers in rugged case
- Local or remote fader control
- Analogue or multiplex versions

ACT 6

- Alternative configurations to ACT 3 with six 10 amp dimmers
- Choice of socket outlets



LIGHTBOARD M	CELEBRITY PLUS 2	M24/FX	ACTION	TEMPUS 2G	TEMPUS
● 192 Addressable ● 12 – 96 in 2 Scenes	● 12 – 96 in 2 Scenes ● 125 Addressable	● 24 – 120	● 24	● 12 – 36 in 2 Scenes	● 6 – 36 in 2 Scenes
● 384 – 768	● 512	● 24 – 120	● 24	● 12 – 36	● 6 – 36
● 200	● 240 Expandable to 480	● 199	● 99	–	–
● Full Proportional	● Matrix Dimmer to Channel and Channel to Dimmer	–	–	–	–
● 2 Crossfaders, Timed or Manual	● 1 Split Crossfader ● 2 Wheel Crossfaders	● 1 Split Timed or Manual	● 1 Split Crossfader	● 1 Split Crossfader	● 1 Split Crossfader
● 24 Pile-On with Selectable Flashbuttons	● 24, 12 are Selectable to Inhibitive	● 8 Group Faders	–	● 4	–
● Up to 200 Effects ● 84 Steps ● 2 Playbacks	● 12 Channel Chase Module	● 8 Faders	● 9 Effects ● 48 Steps	–	–
● 1 Colour	● 1 Colour	● 1 Black and White	–	–	–
● 3 1/2" Disc	● 3 1/2" Disc	● Cassette	–	–	–
● Full Tracking	–	● FX Module	● 24 Faders	–	–
● Printer ● Hand-Held Control ● Remote Activation of up to 8 pre-programmed commands	● Printer ● Hand Held Control	–	–	–	–
–	–	–	–	–	–

STRAND FILTERS – RIGHT ACROSS THE SPECTRUM

Improved and expanded ranges now meet every need!

Improved and expanded ranges now meet every need!

As you know, Strand are old-timers in the filter business and responsible for introducing the numbering system for colours that is widely used today.

Now it's time for some more original ideas – the introduction of three superb ranges of safety filters that have been developed to match up perfectly to every need and every type of operating condition today.

In other words, it's a product line that is the ultimate in its own field in the way that Strand's most advanced luminaires and sophisticated memory controls are in theirs!

The new and improved products are part of the Strand policy of providing a service in entertainment lighting equipment that is fully comprehensive in every way – from a filter or a single lamp to a complete theatre or studio installation.

A wider choice than ever before.

All the most popular colours and many more are represented in these three Strand ranges. But the choice is not only in colour but filter type and performance so you can be sure of maximum economy for your type of operation. And for Film and Television Strand Filters additionally introduce an extensive selection of correction filters and diffusion media.

First there's **STRAND FILTERS Cinelux**, a completely new and fully comprehensive range of colours, correction filters and diffusion media all at competitive prices.

Chromoid is re-launched as an expanded range of high temperature colour effects filters for use where stability and durability are essential, as with tungsten halogen lamps.

Ideal for low budget productions because of its low price is the re-formulated **Cinemoid** range, now safer and with longer-lasting qualities.

Three winning lines to suit every need!

SUMMARY OF FEATURES

- Choice of 3 ranges – to suit all budgets and levels of performance.
- Available from stock – extensive distribution
- 24-hour order despatch
- Supplied in rolls or as cut sheets
- 25-sheet packs from handy 'use-again' storage containers
- All filters conform to stringent safety standards – BS 3944:1965



STRAND FILTERS CINELUX Cinelux colour filters

- Comprehensive range – colours, correction filters and diffusion media
- Tough, heat-resistant thin film polyester material
- Dye coated both sides

Roll 7.62m x 1.22m (25' x 4')

Full Sheet 1.22m x 0.55m (48" x 21")

Half Sheet 0.61m x 0.55m (24" x 21")

Pack of 25 Half Sheets

No.	COLOUR
401	YELLOW
402	LIGHT AMBER
403	STRAW
404	MEDIUM AMBER
405	ORANGE
406	RED (PRIMARY)
407	LIGHT ROSE
409	LIGHT SALMON
410	MIDDLE ROSE
411	DARK PINK
413	MAGENTA
415	PEACOCK BLUE
416	BLUE GREEN (CYAN)
417	STEEL BLUE
418	LIGHT BLUE
419	PRIMARY DARK BLUE
420	DEEP BLUE
421	PEA GREEN
422	MOSS GREEN
424	PRIMARY DARK GREEN
426	MAUVE

No.	COLOUR
427	SMOKEY PINK
428	BRIGHT PINK
429	HEAVY FROST
430	CLEAR
432	MEDIUM BLUE
434	GOLDEN AMBER
436	PALE LAVENDER
437	SPECIAL LAVENDER
438	PALE GREEN
439	DEEP GREEN
441	BRIGHT BLUE
442	PALE VIOLET
443	PALE NAVY BLUE
444	AZURE BLUE
447	APRICOT
448	BRIGHT ROSE
451	GOLD TINT
452	PALE GOLD
453	PALE SALMON
454	PALE ROSE
456	PALE CHOCOLATE

No.	COLOUR
457	PINK
458	DEEP ORANGE
459	NO COLOUR STRAW
461	SLATE BLUE
462	BASTARD AMBER
464	MEDIUM RED
465	DAYLIGHT BLUE
466	PALE RED
470	DEEP LAVENDER
474	DARK STEEL BLUE
476	LIGHT SALMON PINK
479	CHROME ORANGE
480	DARK LAVENDER
481	CONGO BLUE
482	LIGHT RED
483	MOONLIGHT BLUE
484	COSMETIC PEACH
486	COSMETIC SILVER ROSE
488	COSMETIC HIGHLIGHT

Compact swatch books providing colour references and transmission curves are available for STRAND FILTERS Cinelux, Chromoid and Cinemoid filters ranges.

Cinelux correction filters

No.	COLOUR	EFFECT
TUNGSTEN LIGHT CONVERSION		
201	FULL C.T.B.	CONVERTS TUNGSTEN TO PHOTOGRAPHIC DAYLIGHT 3200°K to 5700°K
202	HALF C.T.B.	CONVERTS TUNGSTEN TO DAYLIGHT 3200°K to 4300°K
203	QUARTER C.T.B.	CONVERTS TUNGSTEN TO DAYLIGHT 3200°K to 3600°K
218	EIGHTH C.T.B.	CONVERTS TUNGSTEN TO DAYLIGHT 3200°K to 3400°K
DAYLIGHT CONVERSION		
204	FULL CTO	CONVERTS DAYLIGHT TO TUNGSTEN LIGHT 6500°K to 3200°
205	HALF CTO	CONVERTS DAYLIGHT TO TUNGSTEN LIGHT 6500°K to 3800°K
206	QUARTER CTO	CONVERTS DAYLIGHT TO TUNGSTEN LIGHT 6500°K to 4600°K
223	EIGHTH CTO	CONVERTS DAYLIGHT TO TUNGSTEN LIGHT 6500°K to 5550°K
DAYLIGHT CONVERSION WITH NEUTRAL DENSITY		
209	.3ND	REDUCES LIGHT 1 STOP WITHOUT CHANGING COLOUR
210	.6ND	REDUCES LIGHT 2 STOPS WITHOUT CHANGING COLOUR
211	.9ND	REDUCES LIGHT 3 STOPS WITHOUT CHANGING COLOUR
ARC CORRECTION (CARBON REGULAR)		
212	L.C.T. YELLOW (YI)	REDUCES COLOUR TEMPERATURE OF LOW CARBON ARCS TO 3200°K
213	WHITE FLAME GREEN	CORRECTS WHITE FLAME CARBON ARCS BY ABSORBING ULTRA VIOLET
ARC CORRECTION (COMPACT SOURCE)		
236	HMI (TO TUNGSTEN)	CONVERTS HMI TO 3200°K FOR USE WITH TUNGSTEN FILM
237	CID (TO TUNGSTEN)	CONVERTS CID TO 3200°K FOR USE WITH TUNGSTEN FILM
TUNGSTEN TO FLUORESCENT CORRECTION		
219	FLUORESCENT GREEN	CONVERTS TUNGSTEN TO FLUORESCENT LIGHT (USED IN CONJUNCTION WITH CAMERA CORRECTION FILTER)
ULTRA VIOLET ABSORPTION		
226	UV FILTER	STRONGLY ABSORBS ULTRA VIOLET LIGHT
DIFFUSION MEDIA		
214	FULL TOUGH SPUN	SOFTENS LIGHT AND REDUCES INTENSITY
215	HALF TOUGH SPUN	SOFTENS LIGHT AND REDUCES INTENSITY
229	QUARTER TOUGH SPUN	SOFTENS LIGHT AND REDUCES INTENSITY
216	WHITE DIFFUSION	SOFTENS LIGHT
250	HALF WHITE DIFFUSION	CREATES SOFT LIGHT EFFECTS
251	QUARTER WHITE DIFFUSION	CREATES SOFT LIGHT EFFECTS
217	BLUE DIFFUSION	SOFTENS LIGHT, INCREASES COLOUR TEMPERATURE
228	BRUSHED SILK	DIRECTIONAL SOFT LIGHT EFFECTS
224	DAYLIGHT BLUE FROST	SOFT LIGHT EFFECT WITH TUNGSTEN CORRECTION (USING FULL C.T.B.)
253	HIGHLAND FROST	LIGHT FROST EFFECT
REFLECTION MEDIA Rolls Only 7.62m x 1.22m (25' x 4')		
270	SILVER BLACK SCRIM	PERFORATED REFLECTOR PRODUCING A VERY SOFT REFLECTION. SILVER ON ONE SIDE, BLACK ON THE OTHER. (USEFUL IN WINDOWS)
271	MIRROR SILVER	PRODUCES A HARD REFLECTION
272	SOFT GOLD REFLECTOR	PRODUCES SOFT REFLECTION. WHITE BACKED REFLECTOR
273	SOFT SILVER REFLECTOR	PRODUCES A SOFT REFLECTION WHITE BACKED

CHROMOID colour filters

- Top quality range for high temperature conditions
- Also recommended where routine filter replacement difficult
- Made in body-dyed polycarbonate – meets highest safety standards

Roll 15.24m x 1.22m (50' x 4')
Sheet 0.61m x 0.55m (24" x 21")
Pack of 25 Sheets

No.	COLOUR	No.	COLOUR
101	YELLOW	137	LAVENDER
102	LIGHT AMBER	140	NIGHT BLUE
103	STRAW	141	BRILLIANT BLUE
106	PRIMARY RED	144	AZURE BLUE
108	ROSE TINT	145	DAYLIGHT BLUE
110	MIDDLE ROSE	146	CHROME YELLOW
111	ROSE	149	CANARY
112	DEEP ROSE	150	PALE YELLOW
113	MAGENTA	151	LIME YELLOW
114	RUBY	152	PALE GOLD
115	PEACOCK BLUE	154	PALE ROSE
116	BLUE GREEN	157	PINK
117	STEEL BLUE	158	DEEP ORANGE
119	PRIMARY DARK BLUE	159	NO COLOUR STRAW
121	PEA GREEN	161	SLATE BLUE
122	MOSS GREEN	162	TURQUOISE
123	LIGHT GREEN	163	SURPRISE BLUE
124	PRIMARY DARK GREEN	164	MEDIUM RED
126	MAUVE	167	STEEL TINT
127	SMOKEY PINK	170	LAVENDER BLUE
131	SOFT EDGE	171	LILAC
134	GOLDEN AMBER	172	SURPRISE PINK
135	FIRE	175	PALE GOLDEN ROSE
136	LIGHT LAVENDER	176	LIGHT SALMON PINK



No.	COLOUR
178	SALMON
180	RED SILK
181	BLUE SILK
182	GREEN SILK
183	AMBER SILK
84	TOUGH SILK
85	MATT SILK
86	WARM BLUE
87	NILE BLUE
88	DEEP LILAC
89	LAVENDER TINT
90	PINK TINT
91	MIDDLE BLUE
92	CASPIAN BLUE
93	BLUE
94	WESTERN GREEN
95	SCARLET
96	MEDIUM PURPLE
97	LIGHT GOLDEN AMBER
98	PALE GOLDEN AMBER
99	TOUGH FROST
100	LIGHT FROST

CINEMOID colour filters

- Economical choice of popular colours
- Integral colour cannot be scratched off
- Strong, rigid film easy to handle – simplifies filter changing

Sheets 0.51m x 0.61m (20" x 24")

Pack of 25 Sheets

No.	COLOUR
1	YELLOW
2	LIGHT AMBER
3	STRAW
4	MEDIUM AMBER
5	ORANGE
6	PRIMARY RED
7A	LIGHT ROSE
10	MIDDLE ROSE
11	DARK PINK
16	BLUE GREEN (CYAN)
17	STEEL BLUE
18	LIGHT BLUE
19A	PRIMARY DARK BLUE



No.	COLOUR
21A	PEA GREEN
22	MOSS GREEN
23A	LIGHT GREEN
24A	PRIMARY DARK GREEN
29	HEAVY FROST
32	MEDIUM BLUE
36	PALE LAVENDER
41	BRIGHT BLUE
48	BRIGHT ROSE
50	PALE YELLOW
52	PALE GOLD
54	PALE ROSE
64	MEDIUM RED
66	PALE RED
73	STRAW TINT
78	SALMON PINK

The standard 25-sheet pack with carrying handle protects filters in transit, and also acts as a useful storage container for cut filters afterwards. Rolls are packed in polythene sleeves and colour-coded for easy identification of filter type.

STRAND MEANS ALL-ROUND LIGHTING LEADERSHIP!



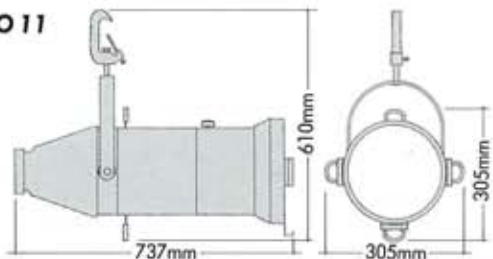
LEKO

The versatile LEKO range of four hard-edge spotlights, each accepting CP77 (FEP), 1000W tungsten halogen lamps axially-mounted, has quickly found popularity with lighting designers, and features in some major West End productions.

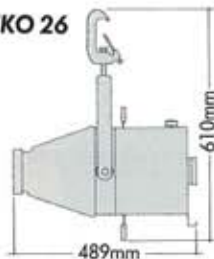
- Robust, heat-dissipating die-cast housing
- Lamp position adjustable without tools

- Faceted reflector for smooth, even beam
- Shutters and gobo slot standard
- Optional Iris unit available

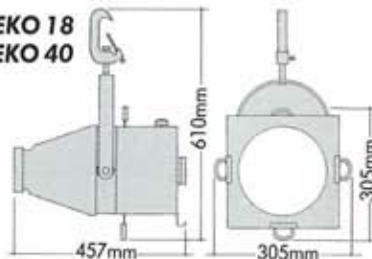
LEKO 11



LEKO 26



LEKO 18
LEKO 40



Product	LEKO 11 (8" x 13") ITEM NO. 77 021 13 1000W Profile Spot	LEKO 18 (6" x 16") ITEM NO. 77 022 16 1000W Profile Spot	LEKO 26 (6" x 12") ITEM NO. 77 022 12 1000W Profile Spot	LEKO 40 (6" x 9") ITEM NO. 77 022 09 1000W Profile Spot
Lamps	1000W lamp - CP77 220/240v	1000W lamp - CP77 220/240v	1000W lamp - CP77 220/240v	1000W lamp - CP77 220/240v
Performance based on CP/77	Peak field 562,000 cd 1/2 peak angle 7° Cosine field 403,200 cd 1/2 peak angle 9° cut off angle 11°	Peak field 302,000 cd 1/2 peak angle 7° Cosine field 143,600 cd 1/2 peak angle 15° cut off angle 18°	Peak field 260,000 cd 1/2 peak angle 11° Cosine field 87,300 cd 1/2 peak angle 21° cut off angle 26°	Peak field 145,800 cd 1/2 peak angle 17° Cosine field 56,200 cd 1/2 peak angle 29° cut off angle 40°
Accessories	Colour frame High hat Gobo Holder Set of 6 Gobos Iris Kit	Colour frame High hat Gobo Holder Set of 6 Gobos Iris Kit	Colour frame High hat Gobo Holder Set of 6 Gobos Iris Kit	Colour frame High hat Gobo Holder Set of 6 Gobos Iris Kit
Weight (Kg)	7.7	7.3	7.3	7.7
Carton size (mm)	840 x 365 x 360	610 x 290 x 310	610 x 290 x 310	610 x 290 x 310



● European versions include integral wire guard.

Continuous Improvements Across the Range

Developing new products or improving existing ones ... Strand technical research worldwide is directed towards maintaining the company's long leadership in the entertainment lighting field. Specifying Strand for all lighting equipment is a customer's best assurance of getting the most advanced products on the market.

Featured here are some of the numerous product improvements - some major, some minor - which have recently been brought into the range as part of the Strand policy of continuous technical progress.



Well established Minim range



The integrated range of Prelude spotlights for 650/500 Watt lamps

New spots for Trouble-free high intensity lighting



PUNCHLITE

PUNCHLITES produce that extra 'punch' of light for high key or special effects over long throws, and ensure high illumination levels even when using strong colour filters.

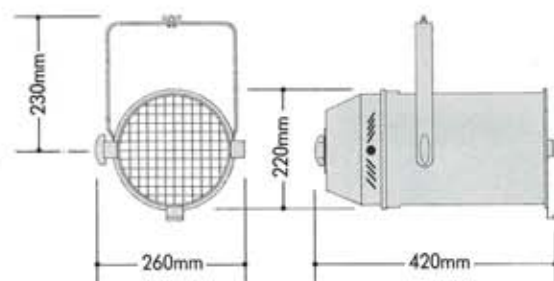
- For 1000/500W Par 64 lamps
- Strong lightweight housing with integral wire guard

- Rear section hinged for easy access with reliable earthing when open
- Front steel reinforcing ring supports colour frame clips

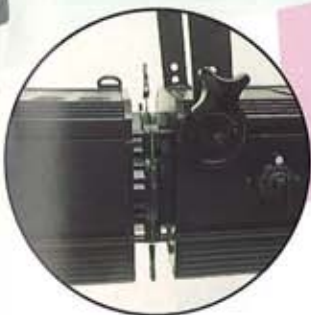
- Simple lamp replacement
- Optional lamp rotation cap

Product	PUNCHLITE PAR 64 with integral wire guard		
Lamps	CP60	CP61	CP62
Performance	NARROW SPOT 275,000 peak cd 1/2 peak angles 9°H x 12°W 1/10 peak angles 17°H x 20°W	SPOT 230,000 peak cd 1/2 peak angles 10°H x 14°W 1/10 peak angles 18°H x 22°W	FLOOD 115,000 peak cd 1/2 peak angles 11°H x 24°W 1/10 peak angles 20°H x 34°W
Accessories	Spare colour frame Lamp rotation cap		
Weight (Kg)	1.8		
Carton size (mm)	496 x 260 x 235		

PUNCHLITE PAR 64



The well established range of Cadenza spotlights now with improved features



- The gate area in the CADENZA spotlights range has been re-designed to improve the operation of the shutter blades which are now provided with more robust handles.



- In the NOCTURNE floodlights and CODA cyc/backlights ranges, compliance with European safety regulations has been neatly achieved by replacing the safety glass and holder with a 4mm mesh.



- A new ignitor for the CSI/CID lamp in the 1kW SOLO FOLLOWSPOT incorporates a shutdown facility which ensures silent operation of the luminaire.



NEW DEVELOPMENTS IN STUDIO AND LOCATION LIGHTING



Following several years as worldwide distributor for the famous Quartzcolor range of products, Strand Lighting recently acquired the Italian production company. This means that Strand is now the world's leading manufacturer – as well as supplier – of television and film studio lighting products. Whether the need is for a single spot or a comprehensive saturated rig for a large studio, Strand has the answer in the international Quartzcolor range.

Many new product developments in studio and location lighting are also taking place – some recent additions to the range are shown here.

QUARTZCOLOR KITS

- Extended range of twelve comprehensive kits for ENG and other location lighting
- Packed in robust Deluxe outfit cases
- Battery kits for independent power supplied
- Customised kits made up to order



QUARTZCOLOR from Strand



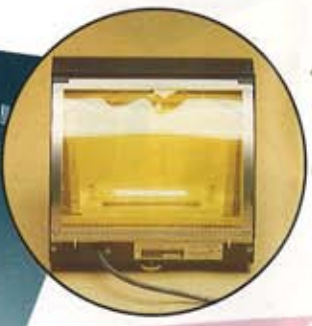
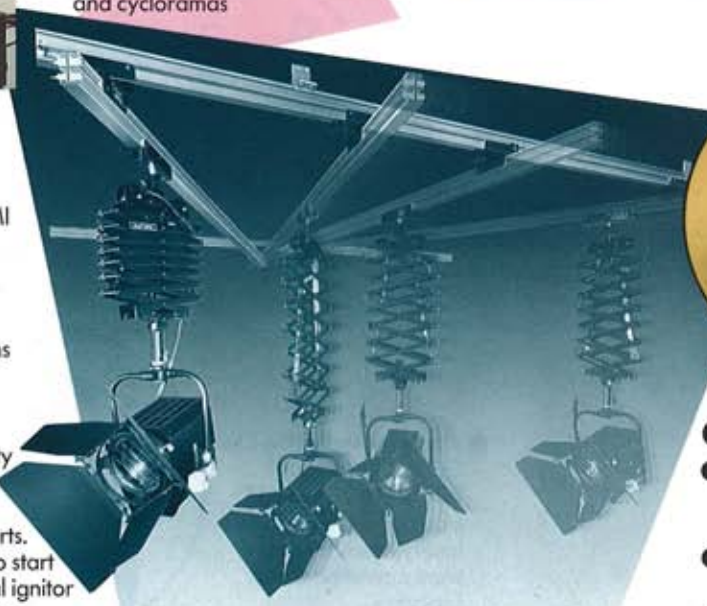
LIGHT RIG

- Suspension system for smaller TV and video studios
- Ideal where floor space and ceiling height restricted
- Position lights anywhere in the studio
- No crossbar jamming – rails glide smoothly
- Curved rail for corners and cycloramas



COMPACT BALLASTS

New compact ballasts for 575, 1200 and 2500W HMI lamps offer some useful benefits against conventional types. In particular, for the highest ratings, valuable reductions in weight and volume are achieved. Another new feature is a customer selectable rapid start facility which automatically cuts out ignitor noise the instant the lamp starts. For older, slower to start lamps conventional ignitor operation can still be selected.



ORION

- Groundrows for extra light or colour from ground level
- Single or 4-compartment versions
- Hinged Orion 4 version will follow curve of cyclorama

ENVIRON DIMMING AND CONTROL



LIGHTING POWER DISTRIBUTION SYSTEM

- Maintains constant 240V AC power supply for film, TV studios and location lighting
- Earth leakage protection in accordance with BS 5500
- Visual and audible signal of any leakage to earth in excess of 20mA



ARTURO

- 1250/2500W softlights for near shadowless wide-angle illumination
- Argento range with textured aluminium reflectors
- Bianco range with white reflectors
- HMI range also available for location work
- Now featuring handling skids



IADI

- Iadi Fill/Iadi Cyc - compact portable 1000/200W floodlights
- Integral barn door with filter clips, plus wire guard, reflectors, scrims, filters and other accessories
- Special profile reflector for wide angle even fill beam (Iadi Fill)
- Reflector for top or bottom lighting of cycloramas or backings (Iadi Cyc)

Wherever the need is for flexible control over a variety of types of lighting load, Environ provides the answer.

Mostly outside the specialised world of theatre and T.V., the market sector often referred to as 'Commercial Lighting' covers a vast variety of applications.

Restaurants



Conference Centres



Whether a single fluorescent tube is to be dimmed or a whole multi-room building to be controlled Environ has the answer.

The range of Environ products is now expanded to include Programmable Control for larger-scale projects, and the compact Mini Universal at the lower end for smaller schemes.



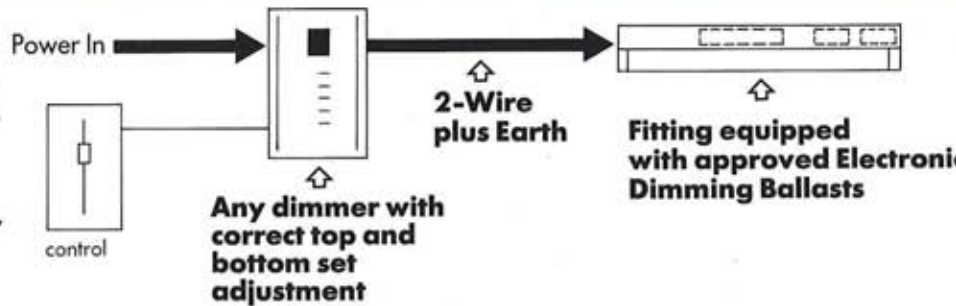
ENVIRON PROGRAMMABLE CONTROL

- Local programming of preset lighting scenes
- Multiple fade speeds
- Automatic operation on programmed time schedules
- Tamper proof 'lock-out' facility
- Room switching
- Multiple choice of facilities & control stations

FLUORESCENT DIMMING: 2-WIRE OPTION

For specially commissioned schemes:

- No extra wire to fittings
- No internal dimmer relay required
- Will operate with tungsten dimmer



Offices



Hotels



Product	Ratings	Load Type	Control
MINI-UNIVERSAL DIMMER	5 Amps	Tungsten Fluorescent Transformer-fed	Manual (Remote or Local)
ECONOMY DIMMERS	2 x 6 Amps	2 circuits Tungsten	Manual
	16 Amps	Tungsten or Transformer-fed	Manual or Up/Stop/Down
	16 Amps	Fluorescent	
ENVIRON 2 MODULAR DIMMERS	6 Amps	Tungsten Fluorescent	Manual or Preset or Up/Stop/Down
	16 Amps	Tungsten Fluorescent	
	32 Amps	Tungsten Fluorescent	
ENVIRON RACKS	Dimmer modules configured according to loading schedule		
ENVIRON PROGRAMMABLE CONTROL	Systems quoted on project basis		
FLUORESCENT CONTROL GEAR	3-Wire: 1 1/2 Inch (38mm) Tubes (T12) 3-Wire: 1 Inch (26mm) Tubes (T8) 2-Wire Electronic: T8 or T12		

THERE ARE MANY OTHER PRODUCTS IN THE STRAND WORLDWIDE RANGE!

Comprehensive sales literature and technical data sheets cover the many standard Strand product lines. With factories in Britain, Italy and USA, products are made for international markets as well as to suit individual national requirements. Please contact the Sales Department for more information.



LAMP UP WITH STRAND!

Strand supply theatre and studio lamps to suit all luminaires and ratings – both as original equipment and also for spares. Let Strand take care of all your lamp replacement needs. For full details of range please see appropriate Price Lists for Stage Lighting or Studio & Location Lighting.

◀ Strand's new 1.2kW tungsten halogen lamp for the Cantata spotlights range

NEW PREMISES FOR STRAND



The company reserves the right to make any variation in design or construction to the equipment described.

Please note our new location as from 4th January 1988:

All departments of Strand Lighting will be located at the new address below from the date shown. Please alter your records.

Strand Lighting Limited Grant Way (off Syon Way),
ISLEWORTH, Middlesex TW7 5QD
Telephone 01 560 3171, Telex 27976, Fax 01 568 2103



Strand Lighting

PO Box 51, Great West Road, Brentford, Middlesex TW8 9HR, United Kingdom
Telephone: 01 560 3171 Telex: 27976

LOS ANGELES: 18111 South Santa Fe Avenue, PO Box 9004 Rancho Dominguez, California, 90224 U.S.A.

TORONTO: 6490 Viscount Road, Mississauga, Ontario L4V 1H3, Canada.

BRAUNSCHWEIG: 3340 Wolfenbüttel 16, Salzdahlum, West Germany.

HONG KONG: 802 Houston Centre, 63 Mody Road, Tsimshatsui East, Kowloon.

OFFICES: PARIS, NEW YORK, ROME, MELBOURNE.

PLASA's 1987 Light & Sound Show - a Serious Business

PLASA finished its three-year run at Novotel in Hammersmith with its best ever Show - a unanimous verdict from those taking part - and our stand-by-stand post-show survey developed into one of the most boring of success stories. When we asked exhibitors how the 1987 show had gone for them, the only difference amongst the replies was the adjective used in front of the word 'well'. 'Very' was the lowest order of things.

The 'standard' and 'quality' of visitor attending - "professional visitors with serious intent" - was the other comment from all exhibitors, and the trade mission from North America, arranged by PLASA in conjunction with the British Overseas Trade Board, was felt by the majority of exhibitors we questioned to have been a positive move. Certainly a goodly number of them had received orders and serious enquiries as a result.

The ground has now been well prepared for the West End transfer to Olympia 2 for Light & Sound Show 88, and if the PLASA Committee and exhibition organiser take the bull by the horns and get the noise problem sorted out once and for all, there will be no stopping the event moving to much bigger things, with an undisputed top spot on the international calendar the final target.

Our biggest ever coverage of the Show follows across the next ten pages, with additional detailed information in our Equipment News section. Graham Walne and Julian Williams gave me their immediate reactions, and Brian Davies has put together his highlights on the 'sound' side of the Show.

Our stand-by-stand guide gives you a check-list of all new products presented in the UK for the first time. For the rest, it's down to the visuals . . .

John Offord

In the recent past the United States saw a glut of carelessly thought out computer boards come on to the market as technology lost some of its mysticism. We seem to be avoiding that situation, and as evidence the new **DLD** desks show some promise in their solid approach. Basically the system offers 180 channels matrixed across 36 faders, some of which offer chasing and sound-to-light functions and an upgrade offers full level memory. At that scale the desks are not as competitive as is perhaps desirable with straight theatre desks, but one has to remember that few theatre desks offer 36 groups each simultaneously available via its



DLD's Simon England gives a detailed briefing to lighting designer Mike Cooper.

own fader. If DLD can listen to theatre people, then we might have another good system to play with!

If you are looking for quality colour television projection and so far have been rather more attracted to the large screen Mitsubishi monitors then **Amark** might change your mind. Of all the projected TV systems at the show, their's offered by far the best quality picture. Many rival systems seemed to me to be presenting videos the quality of which would have appeared questionable even on studio monitors.

I found the overall proliferation of sound this year very disturbing because it was simply impossible to listen to any single loudspeaker against the level of background cacophony. No surprises therefore that perhaps those who are more serious about quality than quantity had



Avitec Electronics: "... best stand by far . . ."

carefully chosen separate rooms away from the main halls, namely **Bose** and **Wharfedale**, both concentrating on new designs for the lower frequencies. **Turbosound** should be included in this list of serious contractors because they presented their products in the now-familiar booth.

Those companies who separated themselves off in this way clearly had the best of it, and the best by far was produced by **Avitec** who constructed an entire disco-room in which regular light shows were presented featuring the hypnotic **Alien** for its first show in the UK. **Laser Systems** also attracted a lot of attention with shows in their own enclosure.

Keep an eye on the **JEM** heavy fog which duplicates the effect of dry ice and runs for 45 minutes on a single 'loading'.

Finally to **Optikinetics** who offered a lighting control panel complete with piano keys, forty years after Mr Bentham's light console with its 'colour music' - perhaps a rather better description than disco.

Graham Walne

By far the most interesting feature of the PLASA show was that of the show itself. It has come a long way from Bloomsbury, all those years ago, and now hosts over 100 exhibitors, and enjoys an efficient publicity machine to promote the event.

Light and Sound Show 87, which is to move into a top professional arena next year at Olympia 2, was simply bursting at its seams with all manner of demonstrations simultaneously going on, but much too loud interruptions of sound demonstrations and continuous PA announcements for stand personnel conducting business. By the last day there were some tired and poor utility services with only one usable telephone to keep in touch with base.



Doughty Engineering - first PLASA Show.



Richard Steward (right), technical director of Mode Electronics, explains the Unit 16 control system.



David Leggett (left) of AC Lighting pictured on the stand of Spotlight (Milano) in Salon Beaujolais.



Biggest stand, best show - Avitec at PLASA 1987, with Kremesa's 'Alien' as centre effect.



Tobysound - lighting control by the Quatro Excel.



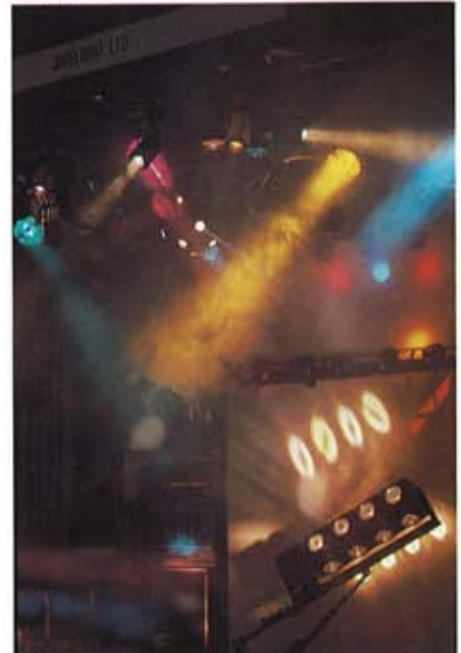
Maxi-Radar from Nisel on the SIS stand.



Proteus beams colour for Lynx Lighting.



Subtle sparkle from Starlight Design.



All action from Jivelight.



Outside - queuing at the get-in for Light & Sound Show 87.



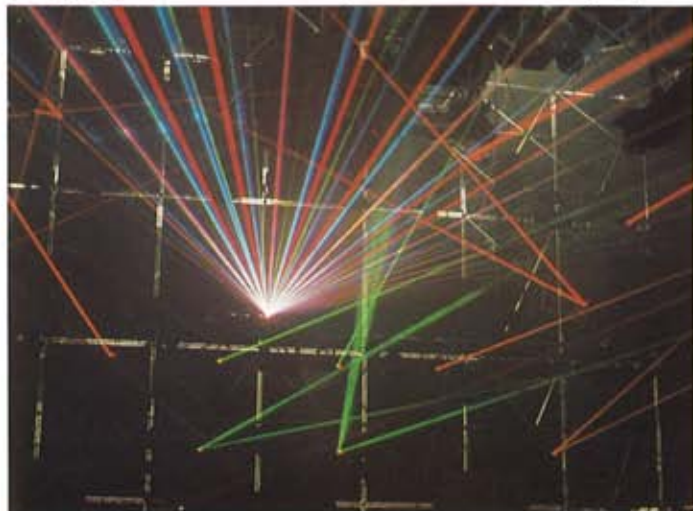
Inside - the 1987 Show in progress.



WB Lighting/Coemar - with an avant-garde touch from Effects Lighting.



Programsistem's 'Alien' arrives at Lightfactor Sales.



Laser Chorus in the Avitec emporium.



Pulsar - an emphasis on Clay Paky.



JEM's Nigel Morris with his revolutionary 'Heavy Fog'.



HH Electronics - a full range of high performance audio products.



OSKA teamwork (left to right): Paul Mardon, Derrick Saunders and Ken Sewell of Pulsar with Tony Gottelier and Mick Martin (Axon Digital).

Every exhibitor I spoke to claimed to be having an unprecedented interest shown in their services from potential clients. However, it is time all British manufacturers took stock, as the current wave of overseas companies advances with their products. This year they included a Swiss company with no less than eight Italian manufacturing companies supported by the Italian Trade Board (Artick, who were showing a unique and impressive illuminated waterfall wall, claimed there was more interest in their lighting control boards!).

Some unusual new features added to the dazzle. Even the hook clamp has come to expansion, being offered in a variety of shapes and sizes alongside an array of hardware products with **Doughty Engineering**, who are comparatively new on the scene, offering a 22-page illustrated brochure. To emphasize the point of this ever increasing, competitive and expanding profession was, again in this area, **Optikinetics'** hands off notice warning market pinchers to beware of any copy of their patented sprung bar clamp (replacing the hook clamp) for suspending luminaires. Paul Chapell's **Upstart Fibre Optic Company** had an impressive list of references throughout theatre and TV industry amongst others, offering his adaptable fibre optic cloth effects, designer trusses, and a two-tier sound hire service. They invite you to 'phone in with your "idea" and for a price quote - no price lists being offered here!

Optikinetics, who recently won exclusive distributor dealership for ACR featured the stunning range of Swiss-produced quality equipment including their colour processor and new intelligent Spectrum 750/760 range with variable colour choice. The 760 will reproduce any visible colour utilising the colorimetry technique and a white light temperature of 9600k.

Multiform and **Icelectrics** were displaying new dimming equipment, the latter including low voltage facilities. **Le Maitre** has expanded its smoke control range and introduced a small high powered machine.

But the real firsts were true 'state-of-the-art' innovations. Computerisation has at last taken in the ever increasing demand for "heavy fog" - the name given by the **JEM Smoke Machine Company** for their programmable water based smoke machine which they claim 'thinks for itself'. For £3000 you can simulate dry ice, tell it to low lie, tell it to disperse or to encapsulate the artists, to hover, or even pump out perfumed smog into the audience if required.

Tony Gottelier's brainchild, the Oska lighting control system, manufactured by Axon Digital, was being introduced and marketed by **Pulsar Light of Cambridge** to complete their progressive 'across the range' lighting boards for all applications.

For a change it seems that the discotheque market has come out in front whilst drawing on some theatre technology to produce this very sophisticated operational device which will undoubtedly become a control standard in our time.

Oska is so friendly that you almost wish it would also talk to you. It has a space invaders type screen into which we peer to simply select by touching the screen in the appropriate area whichever mode is required, alleviating the need for any moving or mechanical parts such as levers switches or push buttons.

The machine comes in simple form with its processor/interface as an Interactive Monitor for touch-sensing function and operating mode, together with an aligned bank of 16 firm weighted, positive feel, low profile quadrant matchless fader wheels (each with illuminated bar graphs) to optionally drive and control the functions. The five operational modes each displaying 16 keyboards are: The Lamp keyboard (for dimmer access), Static keyboard (for instant switch), Scene keyboard (for state pre-set), Chase and Autopilot keyboards (for sequencing cross-fades/snaps), and an additional Programming mode (allowing a Qwerty keyboard to be used with memo panel for updating and editing).

Strand had the matchless fader wheel designed

for their revolutionary MMS system in the early 'seventies, and were the first to utilise this method of control for stage lighting. Fred Bentham, referring to the wheel as a means of control once said: "The feel of the lever is important; there must be a sense of some work done". Just two years ago at Showlight in New York Richard Pilbrow predicted touch-sensitive screen control for his 'Lightboard 2010'. Both these could be attributed to this system.

A problem with this board could be that it is so friendly that the operator may spend most of his time peering into the screen display and not on to the stage! It could be too easy for the operator to inadvertently touch the wrong area of the screen at the wrong time - with little sense of cockpit control drill.

Now the PLASA Show attracts exhibitors from all technical departments of the industry, we are at last on our way to a combined trade event (I called for in Lightlines L&SI March 1985 issue). Will we also have the opportunity of hearing and seeing some expert lectures, seminars, demos, or even a real live concert at Olympia next year, integrated with a scheduled timetable of events? Wait and see

Julian Williams

The PLASA show comes but once a year and when it does I always get a sense of anticipation hoping that this year I will find something really new and exciting. This year it happened: not one, but two new innovations to dissect.

Firstly, my impressions after spending four full days at Novotel. With some 85 stands, and even more exhibitors due to some companies sharing, Novotel is too disjointed and small. Three cheers for next year's move to Olympia 2! However,



One version of the Formula Sound PM80 mixer.



LAD turntable stability on demonstration.



Colin Freeman and Ted Jarvis of System Freestyle show off their award - see story in 'News' pages.



Par Opt's Paul Raymond (right) just about copes with the noise to give a fibre optic briefing.



Two new Mosfet power amps from ICE.



Largest in the Harrison range of Mosfet amps.

there is still one major problem - noise. A sound rota was initiated for those exhibitors who wanted to demonstrate their wares both for lighting as well as sound products. I have no gripe about this, but why oh why is it necessary to demonstrate with the sound at painfully high levels?

At the levels used by many it was impossible to judge the quality of any system - which is surely the purpose of the demonstration? A system can be judged when loud - but not that loud. So come on guys, turn it down and give your potential client the opportunity to hear what it really sounds like.

JEM was one of the silent gang, although Nigel Morris is never very silent when it comes to his company's product and especially his very new 'Heavy Fog' machine, the HF2000. Very large, and designed especially for the club or theatre, this machine dispenses a fog which is heavier than air, thus it lays close to the ground rather than dispersing upwards into the ceiling area. The demonstration was most convincing.

Very new from **LAD** is the Automatic Sound Mixer. Not yet in production LAD demonstrated the prototype, together with their latest turntable, the tilted turntable demonstration being most impressive.

Also showing a mixer was **Formula Sound**. Their modular system can be supplied with any number or combination of modules needed. Two new modules were shown, the first innovation being the Eliminator module. This has the ability to remove the singing voice from a recording. It relies on the assumption that the main voice is centre stage whilst the instruments are generally panned towards right or left. The device removes the mono signal which comprises the centre stage information. The purpose of this is to allow the DJ, or the original artist, to rap or sing over what becomes a backing track. Ideal for those occasions when a personality arrives without a suitable backing track!

The other module shown was a limiter with one unique feature, it carried an indicator to warn when limiting was imminent. This does have the benefit that the operator is made aware that the sound is becoming too loud giving them the opportunity to reduce volume before limiting occurs. A very useful feature.



The Mega range showing new bass cabinet bottom right.



The Bose acoustic wave Cannon speaker.

Two companies introduced Mosfet amplifiers for the first time. From **Icelectrics** comes the DPA300 and the DPA600. Both are rack mounting, and with few controls are easy to operate. These similar amps are not being fitted into a range of DJ consoles by Ice. Although intended for the mobile market they could provide clubs with a much needed backup system.

Harrison Information Technology have six models in their new range with power levels from 150W up to the biggy at 2000W. These amps have a whole heap of goodies attached to them such as built-in limiters, not only to protect the amps but to protect loudspeakers as well. Electronically balanced inputs are standard although transformers can be supplied if required as can plug-in active filters. All these amps are beautifully made and given Mosfet reliability can be fitted and forgotten.

In addition to showing a few of the massive range of microphones from Shure, **HW International** also had three brand new DJ cartridges the DC40, DC50 and the DC60. Designed expressly for the disco market they are claimed to be robust enough for all normal use including scratching - something I will find out in due course.

Also for turntable use is the new slip mat by Stanton available from **Wilmex**. This has been specially prepared to ensure that the individual fibres are all the same length and sitting at the same height. The advantages are claimed to include more consistent contact with the record ensuring an even slip especially for the scratchers amongst us.

Several new loudspeaker systems were in evidence. **Mega** have introduced a bass cabinet to supplement their Dwarf range whilst **Wembley Loudspeakers** are manufacturing a 15 inch driver for the first time. This was demonstrated by Paul McClelland and in the environment of an exhibition it sounded pretty good. Also from Wembley came a new version of the Deuce Cube quite ideal for fun pub installations.

Scott Sound Systems showed their Gemini set-up for the first time. This very nice looking system also sounds excellent and would fit in with any small club installation. Also ideal in a pub situation or anywhere where damage to fittings is likely comes the carpet covered **Opus** 15 inch system. Consisting of two separate units, the mid range can be wall or ceiling mounted whilst the bass bin could be sited under chairs or benches where



The Servodrive bass cabinet from Wharfedale.

because of its construction damage is not likely.

Two product launches were held away from Novotel by **Turbosound** at the Regal, Uxbridge, and by **Bose** at the Hurlingham Club. I arrived at the Regal around midnight by which time the evening was in full swing. This was a joint venture by Turbosound in conjunction with the Disco Mix Club. The evening's entertainment was presented by the DMC over a system of new loudspeakers installed for that one evening. Unfortunately the venue, an old cinema, was by no means ideal and the system was played to loudly for my liking. Further the location of the loudspeakers did not show them off to their best advantage. Listening from the balcony area was poor. The sound was too loud and very woofy. Down on the dance floor the sound was still too loud but the frequency range was much improved. Knowing Turbosound I am sure that these units are excellent but I felt that the venue let the demonstration down.

So I come to the second most interesting introduction of the show. From Bose came the Acoustic Wave Cannon Speaker. This is a bass cabinet, if you can call it a cabinet. It is a pipe twelve and a half feet long by ten inches diameter or so. The driver is sited about a quarter of the way down the pipe which is open at both ends. The frequency response is said to be 25Hz to 125Hz. Some confusion exists about the sound pressure levels available. I understood from the showing that maximum SPL was 160dB at one metre for 150W. The literature supplied states a maximum of 130dB at 1m for 150W so I probably misunderstood. However, even at this rating there seems to be a case of the laws of physics being defeated as the 1W 1m rating is quoted at 90dB. Mathematically this should produce only 122dB at full power of 150W! Bose were unable to explain this discrepancy. Maybe all will become clear in due course.

In spite of all this the demonstration was a good one. Again a bit too loud, and not the type of material I would have used for a demonstration to the disco fraternity but nevertheless it was very impressive and in the right venue, particularly a reggae orientated club, would add a new dimension to the sound. I suspect that this technique is not as new as it was hailed to be. Paul Voight used a similar principle way back in the early thirties in his Domestic Horn Loudspeaker!

Finally, the show stopper for me was the **Wharfedale** demonstration. This took place in their own suite and was carefully controlled in terms of volume, giving the opportunity to ascertain the quality of this new introduction. Wharfedale already produce a good range of drivers especially for mid range and HF but have felt that their bass units were lacking. The problem with bass drivers is to get the heat away - this being a problem due to the change of impedance as the voice coil heats up. So Wharfedale are importing a loudspeaker which does not use a conventional voice coil. The Servodrive system comprises two conventional cones driven back to back by a servo motor. Only the motor spindle lies between the two cones. The motor body lies well away from the cones where any one of several methods can be used to cool it and minimise the resultant impedance change. The bass sounds tight and well defined and give suitable location within the club or theatre will greatly enhance sound quality. Top marks to Wharfedale for giving us something very new. Whilst the technique itself may not be new, at least it is a departure from the normal, and I hope it pays off.

Brian Davies



'Deuce' cube from Wembley loudspeakers.



Icellectrics' Rob Peck deep in new product description.



Midnight Design joined Entec for a first Light & Sound Show.



Harrison's Hazel Simpson - "our new SP12 stereo mixer is sold out until the year end due to show orders."



Glen and Maggie Scott with a double act sales pitch on the Scott Sound Systems stand.



Citronic Limited - three major new products were launched at the Show (details, Equipment News).



TOA audio equipment on the stand of Audilec.



John Walters explains the James Thomas Engineering range of lighting and rigging products.



Cerebrum's Colin Whittaker (right) talks Celco dimmers with LMP's Uli Petzold and Beate Hawighorst.



Hill Audio's Concept 4400 modular console takes centre stage.



Celestion - formal launch of the SR Series.



'Unit Sixteen' - centre of interest on the stand of Mode Electronics.



The Lightmix 430 low voltage controller headlines the MultiForm Lighting stand.



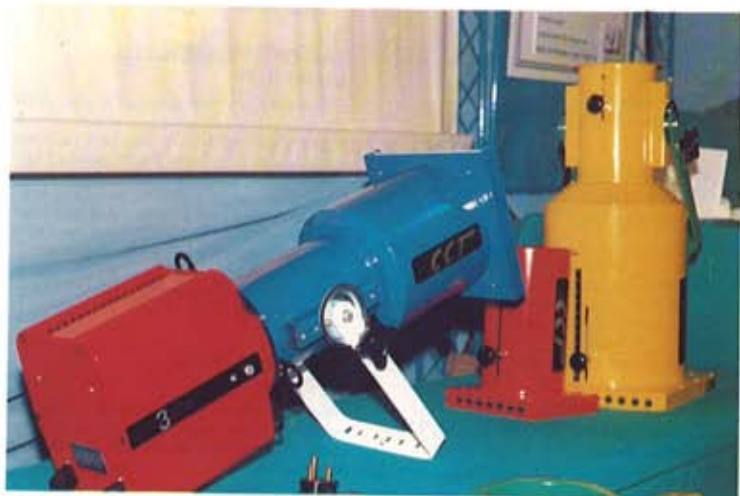
Strand Lighting - a foretaste of things to come with the 'Strand Spectacular' - see feature this issue.



Award-winning System Freestyle forms the stand for Le Maître Lighting and Effects.



'Motor Commander' lifts the Avolites logo.



Colour Silhouettes illustrate CCT Theatre Lighting's lens tube lamp house variants.



Cloud Electronics' Roy Millington (centre) was promoting five new products, first shown at Frankfurt and Rimini.



The busy stand of Tannoy Limited.

Round the Show Report . . .

Salon Alsace WHARFEDALE LTD. (0532) 601222

Walter Mirauer: "A great show - it always is! The highlight on our stand was the Servo-drive System, and there will be a ready market for people who want high SPL's without cluttering up venues with boxes."

New products:

Servodrive high SPL bass system
Installer version of the Diamond range
(now available colour coordinated)

Salons Beaujolais and Bourgogne APIAD MEMBERS Apiad: (2) 804700 (Italy)

Official response from the APIAD office in Milan was that member companies who exhibited were highly satisfied with results, and that they plan to be at the 1988 Show at Olympia 2 in force.

ARTICK snc
IPR/MAXIVIDEO
KING'S SOUND
PROGRAMSISTEM srl
SGM snc
SPOTLIGHT srl
TECNITRON

Salon Muscadet BOSE (UK) LTD. (0795) 75341

Alan Kilford: "An excellent response. More people came to the Suite than previous shows and there was a very high level of 'intelligent' questioning for visitors. The Muscadet Suite is excellent for us - it gives freedom to discuss our products. It didn't allow us to demonstrate the Cannon, but we were able to discuss the new system with visitors."

New Product:

Acoustic Wave Cannon System

1 UPSTART GROUP 01-439 6288 (0752) 663777

Paul Chappell: It was Upstart's first time at a PLASA Show and they were delighted with the response. "It was our first major exhibition and it was ideal for us, with visitors from right across the entertainment field. The headache starts here. How on earth do we do the follow up! Well done PLASA."

2 AVOLITES PRODUCTION CO. LTD. 01-965 8522

Derek Halliday: "We were amazed how many theatre and TV people came to the Show. There was a great deal of interest

from the home market, particularly in our new QM500T - the first of which has just been installed for Opera North at Leeds Grand Theatre."

New Product:

QM500T control console

4

FORMULA SOUND LTD. 061-494 5650/5651

Sandra Cockell: "It was another very good show for us with a lot of interest, particularly in our new noise limiter and voice eliminator modules. Overseas interest was very high, particularly from Canada and the US. The noise was horrendous - it absolutely **must** be better at Olympia!"

New Products:

VCA Control Module
Noise Limiter Module
Voice Eliminator Module

6

DWARF/MEGA LOUDSPEAKERS. (0784) 50739

Karen Donegan: "We had a good reception for all the new products launched. Our Bass Box was very well received, and there was surprise from visitors at the power and sharpness from the Mini Club. There was a very good quality of visitor, particularly from overseas."

New Products:

Dwarf Mini Club
Mega Bass Box
Mega Compact

7

PAR OPTI PROJECTS LTD. 01-995 5179

Paul Raymond: "We received a large order from the US for fibre optics, and there was tremendous interest in our new polymer products and the new Light Source LS20. There was a very big improvement in the 'quality' of visitor, including designers from the general leisure industry. A marked improvement this year! But we did have sore throats from competing with the noise."

New Products:

New Polymer Products
Light Source LS20

8/9

STRAND LIGHTING. 01-560 3171

Brian Myers: "Our catalogues went like wildfire. There were far more people this year - particularly those who are theatre orientated."

New Products:

None (but refer to centre spread)

10

ADDA SUPER CASES LTD (022023) 3101

Monica Saunders: "We exceeded last year's total show sales on the first day. Two new overseas distributors are as good as tied up."

New Products:

'501' for 7" singles
CD20 for compact discs
CD40 for compact discs

11A

CCT THEATRE LIGHTING LTD. 01-640 3366

Ken Rickman: "The PLASA Show is better for contacts than actual sales - we have made some excellent new links. The quality of visitor was better than in 1986, but we will certainly need to find a quieter area next year."

New Products:

Silhouette 2000
Minuette Followspot
Command 2 Portable Control

11B

SOUND CREATIONS (0905) 21707

Eddie Davies: "Excellent - better than in 1986, and almost up to Rimini standards. It was very well organised. We had a very good reaction to our products, and made new overseas contacts in Europe and the Far East and also received orders from North American trade mission visitors."

New Products:

'Trizone Four' low voltage 4 channel three zone unit
'Flowlight Four' mains in 24 volt 1 amp output with four Ropelight sockets
200+200w Stereo Amplifier

11B

MANHATTAN SOUND & LIGHT 01-575 8788

Bill Allen: "The best show we've ever had. Our new products were very well received. Overseas enquiries were very good, and since the show we've had companies from abroad calling us with enquiries."

New Products:

'Centres of Attraction' centre-piece
Dancing scanner banks with colour wheels
Mark II versions of Fogger Elite and Micro Elite
Decor-FX range

12

LUTON SOUND & LIGHTING LTD. (0582) 411733

Mike Henden: "The attendance was amazing, and there was a much higher calibre of visitor this year. We were very busy on all four days, and have monitored business very closely. As a company we were much better organised this year. It was very successful, and the PLASA exhibition seminar certainly helped."

13

PULSAR LIGHT OF CAMBRIDGE LTD. (0223) 66798

Ken Sewell: "The best show we've ever done, and we'll be interested to see how it all translates into business. There was a great deal of interest and actual orders for Clay Paky equipment, and obviously OSKA has drawn the visitors. Bringing the Americans over was a great idea."

New Products:

OSKA lighting control system
Flexi-Flash flexible strobe system
'S' range of controllers
Clay Paky effect projectors

14

SIS LTD. (0604) 250025

Dave Mitchell: "A very good show. Time will tell on actual results."

New Products:

Nisel Maxi Radar
Nisel Monorail System
SIS 20 lamp Harvester
SIS 'Zippy' 3 axis moving light unit
SIS Rolling Box - a Harvester without top motor for vertical and horizontal mounting

15

CELESTION INTERNATIONAL (0473) 723131

Martin Prescott: "A first-time appearance at the Show combined with the formal introduction of the new SR system made for an exciting and highly profitable event. Following our extensive national advertis-

ing campaign, dealers and end-users made a point of visiting the Celestion stand."

New Product:

SR Loudspeaker System

16

HARRISON INFORMATION TECHNOLOGY LTD. (0223) 871711

Hazel Simpson: "We were very surprised at the calibre and variety of visitors this year - a great improvement! Our SP12 stereo mixer sold out to the end of 1987 purely due to orders received at the Show."

New Products:

XI Series of Power Amplifiers
SP12 Stereo Mixer

18

CEREBRUM LIGHTING (SALES & HIRE) LTD. 01-390 0051

John Lethbridge: "There was a very good attendance by overseas visitors, particularly from the USA and Australia. A lot of interest was shown in the Posi-Spot, but we mainly use the Show as a contact point. It's certainly become accepted as the major international Show."

Keith Dale (Celco): "Dimmer interest was huge, particularly from the TV market. And we've sold more Series 2 Gold's to Japan - a very big growth area for us."

John Lethbridge:

19

BATMINK LTD. (0458) 33186/35451

Grant Thomas: "It was our first PLASA Show and we were very pleased. It was the most professional one we've seen, with a very high quality of visitor. We received many more export enquiries than expected, and also made many good trade contacts, particularly from the North of England. There was particular interest in Electrolift and Skylab."

New Products:

Electrolift, moving light device
CR16 Harvester
Discolux Twister
Discolux Scan Pan
Fabrulux Skylab

20

STARLIGHT DESIGN (09544) 8841

Marion Smith: "We received many good enquiries, and detailed discussions on new dealerships both for the home and overseas markets are in progress. There was tremendous interest in the 2000-hour Par 36 lamps and the whole range of new Starlight products. The quality of contacts was excellent - I'm now ploughing through the enquiries!"

New Products:

New 2000-hour Par 36 Lamp
New range of Starlight products including pinspots, scanners and scanner banks.
Plus new Starfan and Starfan Waver

21/25

W.B.LIGHTING LTD./COEMAR UK

(0604) 499331

Roman Walanta: "An excellent show for us business-wise, with a lot of interest in Robot, Forté and Mostro in particular. I have strong feelings as to how PLASA should look after exhibitors and visitors better, with improved facilities to support exhibitor/client communication and entertainment."

New Products: (all Coemar)

Astuto Effect Unit
Mostro Effect Unit
Starbird Effect Unit
Forté with colour and gobo changers

22/24

LASER SYSTEMS LTD. (06333) 62500

Dave Wilkins: "As a result of the Show we should be tying up new dealerships in both France and Australia. It went really well for us, as PLASA usually does, and we were suitably engulfed with enquiries."

New Products:

Minilight
Gyrolight

23

LYNX LIGHTING LTD. (0935) 29290

Nick Searle: "The trade mission has worked well, and we also had a good number of visitors from France and Belgium, although less this year from the Far East. Business-



SYSTEM
freestyle

SPACE BY DESIGN

AWARD WINNER

ALEXAL '87

AT

THE DESIGN COUNCIL

SYSTEM *freestyle* the state-of-the-art spaceframe is available from:

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Tel: 0462 58961

L.S.D.
316 Purley Way
Croydon
Surrey CR0 4XJ
Tel: 01-681 3622

Night Flight Sound & Lighting
Torwood
Bowling
Glasgow G60 5AB
Tel: 0389 79261

Stardream Audio Visual
Party House
Mowbray Drive
Blackpool
Lancs FY3 7JR
Tel: 0253 302602

System Freestyle Hire:

Mushroom Lighting Services Ltd
30 Tenter Road
Moulton Park Industrial Estate
Northampton NN3 1PZ
Tel: (0604) 494866/494991

SYSTEM FREESTYLE

Lordgate Works, London Road, St. Ives, Huntingdon, Cambs. PE17 4EZ · Tel. (0480) 65212 · Telex 32654 Lord Gt.

wise it was excellent, with particular interest in 'The Tube' and 'Proteus'."

New Products:

The Tube beam effect
Proteus centre-piece effect
Computer Scan - computerised version of Synchro Scan

26/27 JAMES THOMAS ENGINEERING LTD. (0386) 553002

John Walters: "Our first time at the Show and we received very good interest, including overseas enquiries. We will certainly be at Olympia next year."

New Products:

Par 16 Light Batters
650 Range of Lanterns
Monitor frames for VDU's

28/29/30/31 SQUIRE LIGHT & SOUND LTD. 01-272 7474 (London office)

Roger Squire: "We switched to a smaller stand this year, and the main purpose was to give away catalogues. In the event we managed to distribute over 2000. I thought the show on the whole was great."

New Products:

Sapro 'Surfer' and 'Colour Wave'
Lampo Beamspot
Lampo Diamond
Lampo Labyrinth
Lampo Prisma

32/33 ANYTRONICS LTD. (0705) 599410

Bob Hall: "I was most impressed with the high quality of visitors - the best of all time. We received absolutely tons of orders, and tied up a nationwide distributor for Australia. But there was too much noise - far worse this year!"

New Products:

Megastar Strobe (linear tube 1500w)
Light Blender, 4 channel low voltage add-on cross-fade module
XP405, 4 x 4 5 amp per channel matrix pack (self contained)

34/35 SOUNDTECH LTD. 021-523 6344

Kevin Hill: "We have many good enquiries to follow up, and we received more overseas contacts than in 1986. The reaction to our new mini spot was particularly good."

New Products:

12v halogen Mini-Spot
Hebi-Gebi centre-piece
James stereo power amplifier
James range of speakers
21 lamp Pillar Twister
Mini Cosmos Ball

36 SCOTT SOUND SYSTEMS (0226) 290264

Glen Scott: "A great show, it was absolutely brilliant - much better than previous ones. We took enough orders on the first day of the Show to cover all the costs of attending. We are now running at double our previous output, and our order book is full."

New Products:

SB200 Bass Unit
P12M Wedge Stage Monitor
1225 Dual Array PA System
S300 3-Way cabinet
S15 full range cabinet
P15 full range cabinet

37 OPUS AMPLIFICATION (0282) 20795

Jim Garlick: "Absolutely excellent. It couldn't have been better."

New Products:

Opus bass station 200w 15" speaker with built-in crossover
Speaker Bracket for up to 12kg.

38 OHM/SMITHFIELD INDUSTRIES (0244) 49062

Chris Aberdeens: "It was a good show, and busier than in 1986, with a healthy number of overseas visitors. We had some very good leads in the North American market, and also expanded dealerships in the UK."

New Products:

OHM MR 450D woofer
OHM BR range of speakers
OHM MRBUT 8 channel mixer
Trantec Radio mic

39/40/42 ZERO 88 LIGHTING LTD. (0727) 33271

Freddie Lloyd: "The best show ever. We've never been so busy; never written so much business; never had such a successful show. I was run ragged."

New Products:

Rackmaster 260 fan cooled 6 x 2kW dimmer pack
Delta 15 dimmer pack for US and Japanese markets
Computer Data Link for disc storage of Orion programmers
VDU display for Eclipse developed in conjunction with Playlight

41 LEAMINGTON SIGHT & SOUND (0926) 833617

Ian Potter: "A very good show - much better than previous ones. We went to promote our trade business rather than retail, and it proved very successful for us."

43 ZODIAC DISCO SALES & HIRE (0480) 50934

Steve Wynes: "We had an excellent show and the reaction to our range of new A.C.O. products exceeded expectations. I was impressed with the organisation and security of the show."

New Products: (all A.C.O.)

Scanner Bank
Anspot Bank
Nodding Scanner Bank
Scanner
Nodder

44 ELECTRONIC LIGHTING AND MUSIC (0209) 820599

Eric Matthews: "It was the best PLASA Show we've had so far - foreign visitors were coming back to the stand after previous visits at earlier shows. We had an excellent reaction to both of our new products."

New Products:

SXL-4i Sound to Light Controller
MFC-4000i Multi-Function Lighting Controller

45 STUDIO 1 ELECTRONICS (0432) 277067

Bryan Morris: "It was an excellent show - far better than the 1986 event with a better quality of visitor. The show was more 'genuine'. It will be interesting to see how Olympia will go - there is concern over gets, get-outs and union labour, etc."

New Products:

Studio 1 'Playmate' for background sound systems
Artist 401 mid/high cabinet
200 watt drivers with HF compression driver and radial flare
Re-styled stereo amplifier

46/47 MUSHROOM LIGHTING SERVICES LTD./SOUNDTEC MARKETING LTD. (0604) 494866 021-550 7387

Paul Butler (Mushroom): "A very good show with an excellent reaction to our new products. We are looking for dealerships in the UK for Supermoon and Mega 15."

Paul Whitehouse (Soundtec): "We are basically a hi-fi marketing company and we went to PLASA to develop contacts in the disco industry which we succeeded in doing. We will certainly be at the next show."

New Products: (Mushroom)

Supermoon (Martin USA)
Star Module range inc. Aero and 4P
1/2 ton Lighting Stand - Mega 15 (Eminence)
Block speaker stand (Eminence)
MLP Lighting transit boxes

48 HILL AUDIO LTD. (062 780) 555/6/7

Graeme Harrison: "It was our first time at PLASA and we were surprised at how well it went - there more overseas visitors and more serious customers than we thought. We had good serious enquiries, both for overseas distribution and UK contracts. There was a very high interest in our M5 full range speakers. We will certainly want a bigger stand at Olympia."

New Product:

M5 Full range speaker enclosure

49 ORTOFON (UK) LTD. (0734) 343621

Nigel Crump: "It was a very good show, and gets better and better. We thought Sunday was the best day as more end-users were there, and we gained valuable comment from the people who actually work with our equipment. It was a very successful show in terms of new business."

New Product:

OM Pro Nightclub Cartridge with Stylus FG3, elliptical

50/51 LE MAITRE LIGHTING AND EFFECTS 01-686 9258

Rodney Clarke: "A very good show - one of the best! There seemed to be a much more serious approach this year. It was more professional, with less time wasters. We took hard orders on stand - which is not usual."

New Products:

Powermist Turbo smoke machine
Pyroflash 1000C3D
Plus new Cartridge Effects

53 TANNOY LTD. (0494) 450606

Martin Bailey: "Generally we were pleased, although for us it was not the best PLASA Show. There was a noticeable lack of new equipment. Are people waiting for a major surge at Olympia in 1988?"

New Product:

Development to Wildcat Range now including contractor's version

54/55 NJD ELECTRONICS (0602) 394122

Kevin Hopcroft: "This was the best show we've ever had, and it produced the most interest. We've been to six previous shows, and this one produced the most orders overall and also the most overseas orders in the history of the company. We were busy from morning to night, and are still receiving many calls from people who couldn't manage to speak to someone on the stand! Next year we've decided not to exhibit at Rimini and will be putting all our efforts into Olympia."

New Products:

TD11 Lancaster II Stereo Disco Console
TD12 Harrier II stereo Disco Console twin DM600 Stereo Mixer
MC4 Sound Chaser
Logic 4004 Light Management System

56/57 ICELECTRICS LTD. (04203) 87128

Rob Peck: "It was the best ever. We wrote more business than at any previous BADEM/PLASA shows, or come to that, any exhibition. The enthusiasm for our new products was tremendous. Several new overseas dealers were agreed, and also many more home contacts were made."

New Products:

Caravelle Mini Disco Console
MF 1502 Mobile Mosfet Amp
Other new products first shown at Rimini:
SD1200 and SD1212 12 channel Dimming Panels, LV1200 low voltage Switch panel, 512 Switch Pack, and DPA300 and DPA600 Mosfet Amps

58/59/60 CITRONIC LTD. (0225) 705600

Mike Gerrish: "It was our best year since 1979, and the reason we got it right was the launch of our two mixers - the MPX9-31 and SM650. We had an exceedingly positive response. Our market research has obviously paid off, and we've put ourselves right back at the top of the mixer industry as a result. We received excellent orders, enquiries, and feedback."

New Products:

MPX9-31 18 input Professional Mixer
SM650 12 input Discotheque Mixer
PPX 1600 Professional Mosfet Amplifier

61 WILMEX LTD. 01-949 2545

New Products:

Stanton SR-30-M Pro-Mix Headset

62 NORTHERN LIGHTS (0524) 62634

Ray Wilkinson: "It was a very enjoyable

show, with a professional turn-out both by the people manning stands and visitors. We have been inundated with work ever since and have lots of follow-ups from people who said they were sorry to have missed the show."

New Products:

Main things new to PLASA are conceptual items which do not have a product name as such - they include remote colour changing pinspots - fibre optic based with high intensity light sources

63/64/65/66 MODE ELECTRONICS LTD. (0920) 2121

John Bradbrook: "It was the best show we've ever had. We tried a different approach with a hospitality suite and a concentrated effort on the Unit 16 System, and it worked very well. The quality of visitor was very high this year, although visitor numbers seemed about the same."

New Products:

UT6TC Unit Sixteen Touch Controller
RU4HP and RU4XP four channel dimmable power packs for rack mounting
Improved range of wall mounting packs for use with Unit Sixteen Lighting System
WS3000 Portable plug-in adaptor display crossfade unit

67 ENTEC SOUND & LIGHT (09328) 66777

Spencer Brooks: "We were very pleased - we'd paid for the stand with first-day orders. I am sure we will want to have a bigger stand at Olympia. There was a very good visitor mix, and the disco side of the industry is certainly getting more professional. We shared our stand with Midnight Design."

68 TRAXS (08045) 55746

Dave Madgwick: "It was a very good show for us with good new export orders to Europe and more UK retail outlets agreed. Now we're busy on the follow-ups."

69 MUSICRAFT LTD. 01-402 9729

Amarjit Saund: "It was a very good show, better than in 1986. We arranged a new dealership in Canada, but I was very disappointed with the North American trade mission. I didn't see one visitor on the stand."

New Product:

MX2000 Professional Power Amplifier

70 MICO LIGHTING LTD. (0532) 567113

Harry Gott: "It was one of the best shows over the last few years, and we've also had very good follow-ups."

71 JIVELIGHT LTD. 01-381 0868

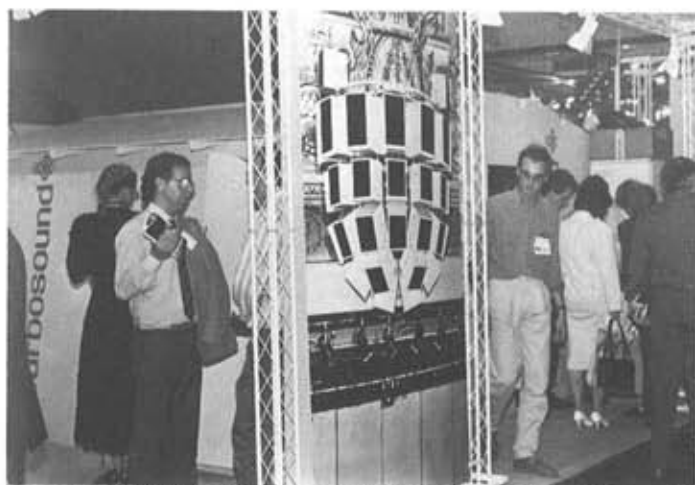
Dave Winfield: "We had a very good response to our new products, particularly Mini-Moon and Dice. The Profile range was well received by the trade, and we had an excellent overseas response to our British made products."

New Products:

UK Products:
Economist Smoke Machine
JL70 Super Scanner
Copperluz (Spain):
Mini-Moon Flower
Star Dice
Moon Flower
Scanning Waver
Profile:
4 channel Chaser
8 channel Controller
16 channel Controller
4 x 4 matrix Controller
8 x 8 matrix Controller
Sound to light Dimmer
6 channel Stereo Mixer
Music & Light (Italy):
Tube Spot

72 LONDON ACOUSTICAL DEVELOPMENTS LTD. 01-946 6063

Gaj Pyndiah: "We very busy - I was amazed. We didn't have a chance to stop, and people are still calling up for information after the show."



The custom-built sound demonstration booth on the stand of Turbosound.



Favourite faces: Zero 88's Freddie Lloyd with Tony Kingsley of Avitec.

New Products:

LAD Sound Mixer with digital fader
Model 425P Turntable

73

PAUL FARRAH SOUND 01-549 1787

Kevin Swayne: "It went very well. We tied up a lot of business at the show which had been in discussion prior to it. In addition, we made a good number of contacts for the future. My headache has only just gone."

New Products:

Launched own Metro Audio products

74

H.H. ELECTRONICS LTD. (0480) 432227

Clive Bradbury: "It was an excellent show with a lot of interest. We received new leads in countries where our dealer network needs strengthening."

New Products:

Complete VX Range of Mosfet Amplifiers
Super 1501 and 1201 Loudspeaker
Chassis
New PX1 Pre-Amplifier

75/76/77/78

JEM SMOKE MACHINE CO LTD. (0507) 607835/6

Nigel Morris: "We had an absolutely phenomenal response - and a whole new clientele of theatre people. 'Heavy Fog' was a winner."

New Products:

HF2000 Heavy Fog
Smoke Detector
428 Computerised Modular Fog System

79

TOBYSOUND LTD. (0283) 45301

Paul Eaton: "It was our first time at the show, and we had a good response. We were predominantly marketing a controller for small clubs and particularly the brewery market."

New Products:

Quatro Controller
450W Power Amplifier - 1st time demonstrated

80

LIGHT PROCESSOR LTD. 01-575 5566

Mike Hannaford: "It was the best trade show this company has ever attended - absolutely fantastic. Reaction to our Program range, in particular the Program Sensor, was exceptional."

New Products:

Program Sensor
Program Four
Program Eight
Program Scene-fader

81

AUDILEC DISTRIBUTION LTD. (0268) 419198/9

Phil Price: "It was the best initial reaction we've ever had, and we were very pleased with the type of visitors - architects, designers and specifiers included. We made new installer and dealer contacts. Certainly we will be looking for a bigger stand at Olympia."

New Products:

TOA MS1, MS2, MS3 & MS4 sub woofers
TOA HS Series Speakers (4 models)

82

CLOUD ELECTRONICS LTD. (0742) 447051

Roy Millington: "It was a very good show, and our new products were received very well on their first UK showing. It will be interesting to see the results of the North American trade mission. There were certainly a lot of good quality visitors, and it was PLASA's best show at Novotel. We've just about got it right - and now we're moving to Olympia!"

New Products (first shown at SIB Rimini)

CV250, CV500, CV800 Power Amps
GR1500 Graphic Equaliser
AX2300 Active Crossover

83

HW INTERNATIONAL 01-607 2717

Neville Wake: "It was a great show as usual. We always get a good response at the PLASA Show and is second only to the British Music Fair for us. I think it's a good idea moving to Olympia, and we intend being there."

New Products:

Shure Audiomaster PA System 200W
Power Mixer, six channels expandable
Shure DC range of Disco Cartridges -
DC40, DC50 and DC60
Vidikron Video Projector

85

MULTIFORM LIGHTING (0825) 3348

Iain Price-Smith: "We had a lot of very positive response to our new products, with several new export contacts. Orders have been rolling in ever since, and we are looking forward to a very busy period right through to Christmas. Our new Lightmix 430 was well received, and will be ready from November."

New Products:

The Lightmix 430 low voltage master controller
Racpak range of 6 x 10a dimmer packs
Multipac II and Switchpak II
Light Fingers touch sensitive board

86

DIGITAL LIGHTING DESK COMPANY 01-262 7631

Nick Archdale: "We were very pleased with the response that our two desks received, especially with the amount of interest shown in the Real Level Memory/Moving Light upgrade for the DLD 6502 machine. We still don't know how we managed it, but with Simon England I managed to demonstrate it to over 120 people and, as a result, we are now in touch with some very interesting potential customers."

New Product:

DLD 6502 180 channel matrix memory desk

87

AMARK VIDEO DESIGNERS (0242) 577910

Andrew Genko: "It was a better show than 1986, but I feel the industry is in a bit of a lull. Main interest was centred on the Thompson projectors. They are excellent quality for a very reasonable price, and are based on digital technology."

New Products:

Latest Thomson TVP3000 digital video projector and also digital recorder

88/89

AVITEC ELECTRONICS (UK) LTD. (0462) 58961

Tony Kingsley: "We were very pleased with the general standard of visitor, and met people we hadn't seen before. (A serious comment, because who would ever go to PLASA and not visit the Avitec stand?) We have considered stopping exhibiting in such a major way, but it still generates huge interest, so we are unlikely to stop just yet!"

New Products:

Kremesa 'Alien'
New Clay Paky Effects
ELF beam/colourchange system
Nisel MusicFlash
Sear Duo Wave 6
Laser Chorus System
Gerwin Vega 'Spruce Moose' mid/high cabinets
RAMSA Loudspeaker System
F.A.L. Musci Ventaglio

90/91

LIGHTFACTOR SALES LTD. 01-575 5566

Geoff Morgan: "It was a very good PLASA Show, and very useful for developing contacts, and particularly people we already deal with but haven't met face to face. It was excellent for developing a wider spread of business to both existing and new clients."

New Products:

Programsystem: Alien, Diamond, Genesis and Maxi Sweeper
Lightfactor: Unicopter - available in white
Datronic: Laser Tracer
Numark: DM 1775 Audio Mixer with 4

92

EDGE TECHNOLOGY GROUP (TURBOSOUND LTD.) 01-226 0099

Tim Chapman: "The company again used its custom-built sound demonstration booth to great effect, and a number of firm orders from prestigious installations were taken at the show. We hope that the move to Olympia next year will produce a more responsible attitude to sound demonstrations! It would be great to see more and hear less - except in properly designed, sound proof units."

New Products:

TSE-260 cabinet
TSE-211 mid/high pack

93

MALHAM LTD. 01-699 0917

James Eymon: "It was a much better show than in 1986. From our point of view people were more serious this year. It certainly reinforced our view that our products have an important role to play in club design. We have some very interesting leads, but by their nature, our projects are long-term ones."

New Products:

'The Quator' 4 wing 80 lamp stainless steel centre-piece
'Vector' 6 beam light fitting with interior colour change system

94/95

OPTIKINETICS LTD. (0582) 411413

Neil Rice: "The show went very well. We

were pleasantly surprised, and did lots of business. I must admit I went with the intention of getting it over with, but in the event I thought it could have gone on longer as I didn't see everyone I wanted to see!"

New Products:

ACR Spectron
Strobe Flower
PowerLite
TriLite Equipment Mounting Clip

96/97

ASTRALLOY INTERNATIONAL LTD. (0532) 465331

Mark Reed: "It was the best PLASA Show yet, and we took good orders on the stand."

New Products:

Blite and Quatralite rigging products
Scanning Mirrors and Barriers for Colibri System
Sound Equipment: RS Sound Systems

98

DOUGHTY ENGINEERING LTD. (0425) 478961

Mervyn Lister: "A terrific show. There was a broader base of visitor than we expected with good trade enquiries both from the UK and overseas, and we actually took some overseas orders, including some from the USA. The best reaction was from Scandinavia. Noise was a problem."

New Products:

New range of Lighting Stands

99

PICKERING CARTRIDGES (0904) 642463

David Vickers: "It was our first PLASA Show and it was very busy and useful. We made a lot of very good contacts. People were taking notice of us, and I think we came in at the right time."

New Products:

V15 DJ Cartridge and new twin packing of both cartridge and styli for disco industry

101

COMPA (LIGHTING) LTD. 01-690 2205

Mike Willis: "It was our first time at the show as an exhibitor, and we certainly had plenty of people to talk to. Our new D-Chaser was well received - especially the price!"

New Product:

D-Chaser lighting controller

102

CRAIG-LOUTH ASSOCIATES (0373) 61809

Chris Louth: "Our initial feeling is that the show is right for us. I was amazed at the mixture of people who came round - from ballet and theatre companies to designers. There were no time wasters, and overseas representation was good. It was well organised."

Publishers, Associations etc., at the Show were:

APIAD (3)
DISCO INTERNATIONAL (84)
DISCO MIRROR (52)
DISCO MIX CLUB (17)
JOCKS MAGAZINE (5)
TECNO SHOW (100)

Rotterdam's Field in the Sky

Peter Wynne Willson climbs aloft to light up the port during the Rotterdam '89 Arts Festival.

The sunny fourteenth day of August and a disparate crew, bringing as many languages as skills, converged on Rotterdam to mount 'A Field in the Sky'. In eight days and nights it was ploughed, sown, and ripened into the most extraordinary aerial harvest - a cubic mile of fantastic maritime architecture, lighting of epic grandeur and heroic, original music.

The largest ocean going sheerlegs in the world became encrusted with both static and driven lighting equipment and their choreography was rehearsed to a tenth of a second timing. Available rigging time had also been precisely calculated, and teams were working aloft (at over ten times the height of a two storey house) even while these leviathans were manoeuvring across the vast harbour stage. What seems like a minor nudge between two craft at sea level, is altogether different and most interesting at jib altitudes! Previously 10 metres had been about my limit, but scales fell from my eyes during these exercises.

The night of performance was clear but with enough sea fret to augment the smoke that was layed by 'Kermit' - a tiny high-speed tug. The country's two most powerful fire tenders executed a fast pas de deux, wheeling to the music with port and starboard pumps streaming in the light of Xenon gladiators and HMI Niethammers which had been slowly hoisted to two hundred feet in cradles the size of artic trailers. The tenders stopped 50 metres apart, head on, their bow hoses with special nozzles engineered for the effect, shooting horizontal jets, which as they elevated formed a soaring arch with a fine scrim of water apparently suspended from it. On the far bank, two 12kw HMI fresnels with human rapid colour changers, showered light as bright as day through this veil of tears (sic).

To left and right of the main quay, the great 'Snip' and 'Ajax' sea cranes were on station with incandescents flooding their space frame structures. Through 120 driven heads the VNS Par64s threw demon beams that dipped and danced to the allegro, and in more stately passages, swept towering walls of solid light and changing colour from the river to the shore where the Rotterdammers clapped and gasped.

Silently into the arena then slipped the many thousand steel tons of Tak Lifts 1 and 6' - awesome queens of the Smit Tak fleet - and through the smoke they delicately and precisely linked with 'Seatruck' which bore a huge folded cut cloth of the 'Rotterdam Kunststichting '89' logo. Hooks, each taller than a man, were engaged, and the cloth rose into the sky, releasing as it unfurled two thousand pure white



Peter Wynne Willson on the 'Ajax'.

helium globes streaked through the swirling beams of the follows, the remotes, the fresnels and the floods as the music closed. Finally, the remotes swung in unison on to the audience in open white, so that the video crews could catch them and also so that people could see - because most of the regular street lamps had been turned out by the crew.

The river itself had been closed to shipping during the show, the only time in history for this busiest of ports.

In Europe's most art-orientated city, it was fun like no other.

Technical Specification

Country: Holland
Venue: Rotterdam City Harbour
Occasion: Rotterdam '89 Arts Festival
Concept/Realisation: Tom Donnellan
Musical Score: Mariano Lozano
Driven Lighting designed by: Peter Wynne Willson
Production: B-Produkties

Sound: 32,000 watts Turbosound by Protone.
Trussing: 350 metres of 3 metre square, steel, trim height 80 metres, each truss three axes of freedom (by Smit Tak International).
Hoists: 32 cable winches, in excess of three thousand tonnes capacity!
Lighting: 6 Niethammer 1200 watt HMI Followspots; 200 Par64 VNS 1000 watt 110 volt; 40 Par64 MS 1000 watt 110 volt; 120 Remote Heads, Pancan System 3; 2 x 4k, 2 x 5k, 6 x 6k, 2 x 12k HMI Fresnels; 120 Floods 1000 watt Q1; 2 Gladiators 5000 watt Xenon.
Control: Celco 90 Gold, Celco 30, Touchstone 96, 2 independent radio systems, 1 maritime 44 Tx/Rx communication sets.
Crew: 120 including: designers, riggers, 2 teams of Alpinists, Harbour Masters, 8 Sea Captains, Pilot and Cook.
Durations: 7 days rigging and rehearsal, 1 day wrap, 51 minutes performance.
Audience: Live: 150,000.
Tape: Sky Channel 28 & 29 September, 8 & 9 October.
Budget: £130,000 (City and Industry contributions).
Insurance: £750,000 (Riggers working at 250 feet signed waivers.)

Peter Wynne Willson, formerly director of design at Pancan, remains with them as consultant. With Tony Gottelier he recently formed a creative partnership, Wynne Willson Gottelier Limited.



Tom Donnellan on board the 'Snip' goes fishing with an array of Pancans.



Colour preparation for 'human rapid colour changers'. The event was watched by a live audience of 150,000.



Huge Sheerlegs, the country's most powerful fire tenders, and 120 Pancans together with numerous other lighting units turn Rotterdam City Harbour into a light and sound show venue.



Astoria Live!

Trichord Leisure aim to make the Astoria London's premier live music venue. Roger St. Pierre talked to John Gunnell at the venue.

Nostalgia is a powerful force, and no era stirs up so many evocative memories as the so-called 'Swinging Sixties'. Whether it be in fashion, music or teen cults, London was undoubtedly the world's capital at the time, and the square mile known as Soho was the heartbeat of it all.

Anyone who ever owned a bum-freezer jacket, a Vespa GS scooter, a Paisley shirt or a suede-and-leather overcoat will go misty-eyed at the memories of pre-tourist Carnaby Street mod clothes stores, basement record shops like Transat selling much-in-demand import albums by obscure American acts and clubs like La Discotheque, The Scene, Tiles and the Marquee where the beat went on, and on, and on and on.

No club was more popular or more important to the whole London scene of that time than the Flamingo, originally started as a jazz club and subsequently the launching pad for such home-grown soul/R&B acts as Georgie Fame and the Blue Flames, Zoot Money's Big Roll Band, Geno Washington's Ram Jam Band and John Mayall's Bluesbreakers (featuring Eric Clapton).

The men who ran the club and also managed the aforementioned acts and many others, were brothers Rick and John Gunnell. These days, Rick runs a successful chain of disco-pubs - all called The Londoner - in Austria. As for John, after a long spell in the USA, he's now back in town and the man behind the capital's most exciting new venue in a long, long time.

Erstwhile theatre and cinema, the Astoria, on Charing Cross Road, has been converted

into a live-music venue, plus discotheque, which is big enough to attract major acts and small enough to create the kind of intimate atmosphere which made London's clubland such a great place all those years ago.

The refurbishment has cost nearly a million pounds: "I hate to add up all the bills," John told me when we met at the venue. "Over £100,000 was spent on the toilets alone - outrageous money, but it had to be done. The building is nearly 70 years old. It's sound structurally but needed a lot of cosmetic surgery. We've put in new furniture, new carpeting, new decor and, most importantly, an elaborate new sound and lighting system, conceived and installed by Midnight Design, who did a great job for us.

"We've got a full-width rock stage. It's got plenty of depth so that we can put on acts of big-band proportions and one of the great features of the place is that everyone gets a clear view of the stage. We spent a lot of time and money getting our lighting rig correct and the stage PA system is state-of-the-art. Amazingly, though, we still get bands who want to bring their own gear in - which is quite ridiculous. We know that if they use the house PA we can guarantee sound quality of the ultimate kind.

"Besides showcasing big name acts, a major function of the Astoria will be to provide a chance for new acts to reach a wider audience than they can hope for with all those local pub gigs, so we have a policy of presenting a number of bands each night. It's a similar thing to what used to happen at the old Flamingo where we would headline

visiting Americans like Wilson Pickett, Solomon Burke or John Lee Hooker but also put on unknown bands and our own stable of regular artists who were able to build a strong following by appearing on a regular weekly basis.

"The idea is to present rock acts between 7.00 p.m. and 11.00 p.m. and then re-open at 11.30 p.m. and present soul acts to a totally different audience - and stay open right through till 3.00 a.m. It means that we have to start sound checks as early as 10.00 a.m. and if people want to use their own gear then that creates enormous and unnecessary problems.

"Our sound system is flexible enough to suit all kinds of music and our lighting rig has everything that anyone could wish for. The next move is to put in a really lavish discotheque system - this is essentially a live venue, but just like the old clubs we will rely heavily on strong D.J.'s to hold the audience between acts."

John has a lifetime of experience as a club promoter. He was just 15 years old and still at school when he and Rick started promoting weekend gigs in the West End and by April 1959 they were renting sessions at the Flamingo and putting on their own shows. "In the early 'Sixties, we started experimenting with R&B and it proved very popular. It reached the level where we found that the great jazz players like Ronnie Ross, who used to be the mainstay of the club, would come on-stage and the audience would vanish so, pretty soon, our policy became 100 per cent R&B. By 1964 we had



Lights up at the Astoria on London's Charing Cross Road.

taken over all the sessions at the club and the Flamingo was at its peak.

"A year later we opened the Ram Jam Club in Brixton and a further year on we opened the Bag O'Nails which became a popular West End watering hole for all the big pop stars of the day. By then we were into artist management and agency, publishing, recording, films, toilet rolls - anything that made money!"

The brothers even had their own short-lived record company, St. George Records, which had a leftfield number-one with Danny La Rue singing 'On Mother Kelly's Doorstep'.

"We were involved in looking after Georgie Fame, Zoot Money, Fleetwood Mac, Chicken Shack, P.J. Proby, Long John Baldry, Cliff Bennett - oh, so many acts. Then Robert Stigwood came along and brought half our companies. I went off to work for him in Australia, New Zealand and Japan. I was involved with 'Hair' and put on tours by people like the Jackson Five, Frank Zappa and Muddy Waters. After that I struck out on my own and settled in Los Angeles. I managed John Mayall, did some promoting and publishing and spent a lot of time falling asleep on the beach."

So what brought him back to the UK after all these years? "Business went a bit flat in the States so I started to yearn for a return to the old excitement I had found in London," John told me. "I travelled backwards and forwards for a couple of years, looking for a venue and for a way of putting the financing together."

"Eventually I found the Astoria, which had been following a rather chequered career. The Lennon musical played there for some time and they put on the odd rock show but much of the time it stood empty. I found myself two partners and we set up Trichord Leisure to buy the place, refurbish it and, hopefully, create London's premier live music outlet. We can hold 1,650 people, which is an ideal size for the things we want to do. We opened in August, which was a difficult time because there were not many acts in town at the time - but our forward programming is now looking very strong."

"Squeeze, the Drifters, Johnny Rotten's Public Image Ltd and top soul acts Slave, Ronnie McNeir and Chuck Brown are all booked to appear. Two nights a week we will be concentrating on dance music, kicking off with Gwen McCray. Norman Jay will be presenting the Friday nights for us and Simon Goffe will take care of Saturdays - and



John Gunnell: "We spent a lot of time and money getting our lighting rig correct, and the stage PA system is state-of-the-art."

both of them have their own faithful following on which we can build.

"In the old days, people went to the Flamingo simply because it **was** the Flamingo. That kind of thing doesn't happen anymore. Live music venues are judged purely on the strength of who is appearing that particular night. That said, if you give the public a pleasant venue with a good lighting and sound system then it certainly helps."

House PA System Specification:

Martin/JBL 12 kilowatt speaker system comprising of,
8 JBL 2245/L340 sub bass cabinets,
12 Martin VRS800 cabinets,
12 JBL 2441/2385 horns.

System is run 4 way stereo with additional mono sub bass, frequency distribution:

20-70Hz . . . 8 x JBL 2245,
35-200Hz . . . 12 x RCF 18",
200-2000Hz . . . 12 x Martin/ATC 12"
2000-6000Hz . . . 12 x JBL 2441
6000-21500Hz . . . 12 x JBL 2425.

Front of house control:
Soundcraft series 8000 32/8/2 console,

Klark Teknik DN360 stereo equaliser,
3 x BSS FDS 360 crossovers,
2 x BSS DPR 402 stereo compressor/de-esser/limiters,
2 x Yamaha SPX90 MK11 FX processors,
TEAC W660 twin cassette.

Monitor system:

Soundcraft Series 500 24/12 console,
6 x Yamaha Q2031 stereo equalisers,
2 x BSS FDS 360 crossovers,
2 x Martin RS1200 full range cabinets (side fills),
6 x Martin LE400 monitor wedges,
4 x Martin CXW monitor wedges,
4 x Shure SM57 mics,
6 x Sennheiser 421 mics,
4 x Electrovoice PL80 mics,
4 x Electrovoice DS35 mics,
4 x Electrovoice PL77B mics,
2 x Electrovoice PL20 mics,
6 x BSS AR116 Di boxes,
8 x Long boom stands,
8 x Short boom stands,
6 x Straight stands.

Lighting:

100K Lighting Rig comprising:
60 way Celco desk, front and back 40' Truss, 14 Bars of 6 Par cans, 2 Bars of 8 Aeros, 6 Floor Par cans, 6 1K Profiles, 2 Fly Spots - Lyceum Strands.

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EQUIPMENT *News*

New from ICE

The Caravelle Mini Discotheque Console is a full specification stereo unit with an entirely new mixer. Facilities on the mixer include permanent split cue, direct feed mic, loudness control, automic override and deck starts. The Caravelle also features a 15 watt per channel amplifier on the mixer board to enable disc jockeys to 'polish' their show at home without the whole rig, or for domestic use, (children's parties etc). It is a feature which should also be of great interest to hire companies.

The new MF 1502 Mobile Mosfet Amp is a derivative of the DPA 300 Mosfet - a quality 150 watt per channel stereo amp housed in a strong wooden case. On the front are all input and link sockets, a full eleven LED per channel 'V' shaped LED display and the level controls. On the rear are a IEC mains input socket, fuse, the output sockets and mains switch. With high dynamic power the new Mosfets have to be heard to be believed, say Ice.

For full details contact Icelectrics Limited, 22 Woolmer Way, Bordon, Hants GU35 9QF telephone (04203) 87128.

Quator and Vector from Malham

Due to its tubular frame construction the 'Quator' is a large, yet lightweight unit. Four triangular wings are supported on a horizontal frame and can be individually moved through 120° by electrically operated pistons. Twenty H.7616 (12v. 37.5w) pinspot lamps are housed in every wing - the inner, side and outer faces containing five lamps each. These 80 wing pinspot lamps are wired for four channel matrix operation, providing a large selection of cross beam patterns.

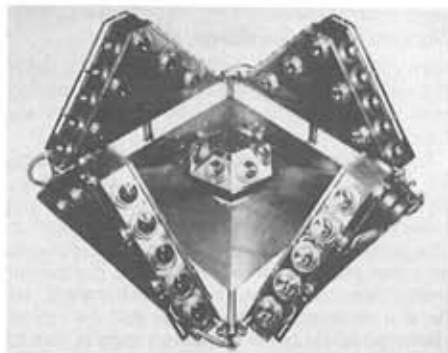
The centre of the fitting contains a six-lamp Varicopter mounted on a faceted square plinth. This has a further 6 H. 7616 lamps. A multitude of intricate beam patterns can be created by simple wing movements - from a closed position when only the outer face pinspot lamps and Varicopter are in view to a fully open position when all the inner faces are revealed. The light show from Quator can be enhanced by the addition of optional effects such as wing mounted neon, Hi-intensity tubelite and three colour plinth neon.

The 'Vector' is an intelligent, powerful, versatile and colourful beam generator, easily controlled at the touch of a button. Designed to be used in pairs or multiples it can transform a dance floor into a maze of interlocking, crystal sharp, beams of light. You can select the colour of light desired or let the Vector automatically travel through the colours and subtle hues of the spectrum.

Inside the attractively styled casing a single 24v. 250w. lamp generates six beams through 70mm lenses, arranged in a fan spanning 90 degrees. Dichroic filters on a motor driven wheel allow the automatic selection of five separate colours with



Malham's Vector.



The Quator.

secondary shades appearing as the filters change. Colour selection is through a remote six way push button array which can control any number of units in a simple and precise manner. Connection to the unit is via an eight core cable and din plug. Fittings can be linked together in a daisy chain via a secondary din socket.

Mains into the unit is through two I.E.C. plug and sockets making the Vector an extremely simple unit to install. The lamp circuit can be connected to any inductive load controller to provide sequencing between one unit and another. In multiple applications only one colour selection controller is required although the use of more will provide greater variety. The unit is fan cooled for efficient operation and can be mounted at any angle between the horizontal and vertical axes.

For full details contact Malham Ltd., 65-67 Malham Road, London SE26 1AJ telephone 01-699 0917.

C.I.C. Chain-Link Curtains

Decorative backdrops for DJ boxes can be a problem - especially if the owner or manager wishes to modify the background from time to time.

A new idea has recently become available from C.I.C. Ltd., in the form of a highly decorative



Chain-link curtain to your own design.

aluminium chain-link curtain. Available in virtually any width up to 16 feet and almost any required length, the links come in ten different colours silver, gold, light blue, dark blue, light green, dark green, pink, red, brown and purple. These can be assembled in any desired way to create words, pictures or abstract patterns.

The material is anodised and dyed, with the resultant finish being both permanent and very hard wearing. Each link is finished after forming, so the colour exists over the entire surface with no untreated areas due to cutting. The individual chains are mounted onto an extruded aluminium rail which can act as a hook by which to hang it. Being aluminium, the curtain can be quite light, making hefty sky hooks unnecessary.

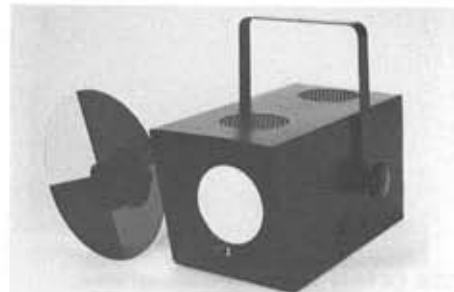
Delivery of a complete curtain takes only as long as it takes to draw up the basic design and assemble the appropriate coloured links. Two weeks is currently quoted. Costs of this material will depend on the pattern chosen and the size, for example a standard pattern five feet long and five feet wide will cost around £90.00.

Other decorative uses will suggest themselves, such as doorway curtains. The links are very light and in this application the curtain slides aside quite easily.

For further details of this exciting innovation call David Green, the sales director of C.I.C. on (0784) 36515.

Jivelight Threesome

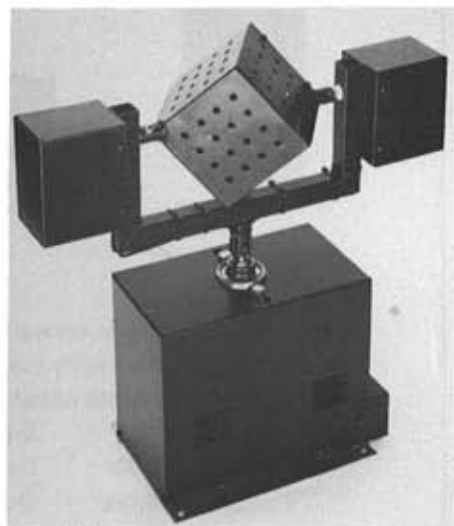
Seen for the first time at the recent PLASA Show, Jivelight have introduced three new pieces of lighting equipment ideal for the smaller installation or mobile user. All are for use with smoke.



Jivelight's Moon-Flower.

'Star Dice' gives the effect of a tumbling star ball, with pin beams turning at 30 rpm and tumbling at 15 rpm. 'Moon-Flower' is a cluster of slowly revolving light beams which are lens focused. A front-mounted colour changer which comes as an optional extra is easily fitted, and no controller is required. 'Mini Moon-Flower' is small, compact and light, and ideal for mobile use, using crossing light beams for a stunning effect.

For more information contact Jivelight Limited, Greyhound House, 16-18 Greyhound Road, London W6 8NX telephone 01-381 0868.



'Star Dice'.

Waterproof Cases

Lejon, the specialist flight, equipment and sample case manufacturer has received the first Pelican waterproof cases from the United States. The cases are approved for air transit or transportation to harsh industrial environments.

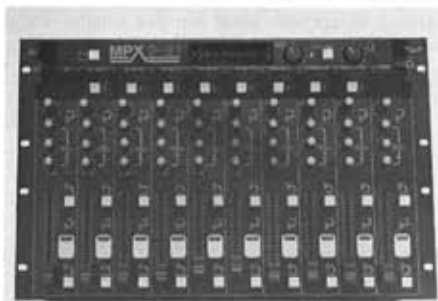
Structural foam resin is used in their construction making them lightweight, extremely strong and dent proof. They can be used for cameras, gauges, video equipment, guns, meters etc. An O ring lid seal gives complete waterproofing, and the cases will float when fully loaded. An integral pressure valve allows for changes in atmospheric pressure.

Internally, they are fitted with high grade photographic foam, which, by the removal of small squares can be accurately customised to individual pieces of equipment. Specialised interiors are also available in plastozote or different grades of foam.

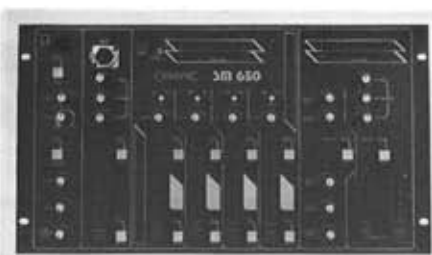
Contact Lejon for a catalogue and price list at 10 Newby Road, Hazel Grove, Stockport, Cheshire SK7 5DY telephone 061-456 2486.

Citronic's Big Three

The MPX9-31 18 Input Professional Mixer has been designed from concept to produce the very best sound quality possible. The circuitry has been designed from first principles, with the objective defined as 'A circuit design that will perform in accordance with the theoretical limits of noise, distortion and compliance with standard characteristics such as RIAA'. The whole world knows that with the technology available today



The MPX9-31 18 input professional mixer.



Citronic's SM650 discotheque mixer.

such a demand is impossible. However, by defining such an objective, the end result is a product with performance that is 'State of the Art' say Citronic.

The SM650 Discotheque Mixer has been designed from a marketing specification provided by DJ's, installation and distribution companies who collectively told Citronic just what they needed. The problem was to pack all their requirements into one product which would have the performance needed in today's Hi-Tec environment, yet be at a competitive price. It was just the sort of challenge teams of the company's experts love to dedicate themselves to, and the solution was the SM650.

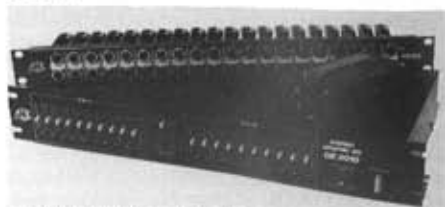
Finally, the PPX1600 Professional Mosfet Power Amplifier features all the PPX amplifier characteristics that have made them one of the most popular amplifiers with professionals worldwide. Like the PPX1200 it has a Soft-Start and all the normal protection circuitry incorporating Citronic's sophisticated and unique new DC protection circuit developed for the PPX300 that has now been up-dated to the rest of the range.

For full product information contact Citronic Limited, Bowerhill, Melksham, Wiltshire SN12 6UB telephone (0225) 705600.

MTR Trio

Now fully established in their new manufacturing facility, MTR have announced three new products.

First is the GE 2010, a 2u 19" rack-mounting ten band stereo graphic equaliser that is quiet and reliable, with multi-detent faders, jack and phono connectors, an e.q. bypass and tape copying facility. Next is the PB-80, replacing the PB-1. This is a 40-way patchbay, one unit high, with stereo jack sockets front and rear for balanced, unbalanced and Midi patching. Finally, a humble Direct Injection box. But this is an Active balanced version, with a three way ground switch (ground, floating or lifted), a three way attenuator (-40dB, -20dB, 0dB), and is powered by a 9v battery or phantom power.



MTR's latest trio of products.

MTR say their products are remarkable value for money. To find out, and obtain full details, contact MTR Limited at Ford House, 58 Cross Road, Bushey, Herts WD1 4DQ telephone (0923) 34050.

SEMKO Approve

Sifam of Torquay has announced that its range of panel-mounting fuseholders is now approved by SEMKO - the Swedish testing authority internationally acknowledged as the approval body for such products. New to the company's range of panel components a few months ago, the fuseholders are said to be highly competitive in price, yet fully compatible with established fitting and performance requirements. Their modular design offers low or high profile front-of-panel options in a finely textured matt-black finish to blend with the style and texture of the company's other panelware such as meters and control knobs.

For full details contact Sifam Ltd, Woodland Road, Torquay TQ2 7AY, telephone (0803) 63822.

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By Tube to Novotel

One of the most interesting products on display at this year's PLASA exhibition was undoubtedly the Acoustic Cannon from the Bose Corporation (see also PLASA Show feature). Conventional loudspeaker design has been thrown to the winds - the Cannon is a 12-foot tube, which captures a 12" specialised driver in a critical position to provide ultra low-frequency bass response.

It is the first application of the 'Acoustic Wave' speaker technology to professional sound - and is the dramatic outcome of 15 years of research by the Bose Corporation. The Acoustic Cannon produces sound using two vibrating columns of air captured in an acoustic waveguide. Such proprietary and patented Bose technology offers the important benefits of purer sound and greater design flexibility.

The Cannon itself is part of a modular system, offering high performance to many fixed-installation applications such as nightclubs, dance clubs, cinemas, performance theatres and churches. To achieve optimum effect and performance in a wide range of user applications, the Cannon can be used with the Bose 802 Series II loudspeakers. When used with the AWCS to reproduce frequencies above 125Hz, the 802 system offers an impressive combination of clarity, accuracy and efficiency.

The third component in the Wave Sound System is the WSC-1 Wave System Controller. This is a dual-channel active electronic equaliser and crossover network, designed specifically for use with the AWCS and the 802s.

For further information contact Bose UK Limited, Trinity Trading Estate, Sittingbourne, Kent ME10 2PD telephone (0795) 75341.

Euroelectric Aqua Star

Aqua Star, a new splashproof switch, has been introduced by Euroelectric, the Wellingborough-based importers. Made in West Germany by Merten, the switch is IP44 rated and incorporates a legend plate (with optional illumination). The 1 gang, 2 way Aqua Star, with its unique, technically superior design, is available in attractive two-tone

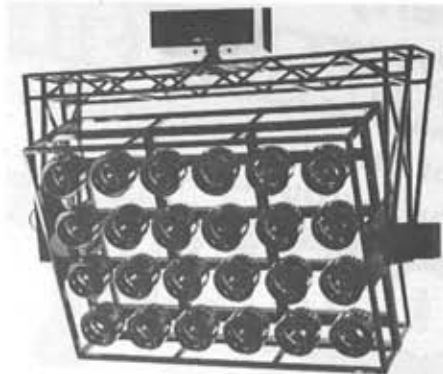
grey at a trade price of £3.59.

For full details contact Euroelectric (UK) Limited, Brunel Close, Park Farm Industrial Estate, Wellingborough, Northants NN8 3QX telephone (0933) 673144.

Tube and Proteus

Two new products on view at the PLASA Show from Lynx Lighting were 'The Tube' and 'Proteus'.

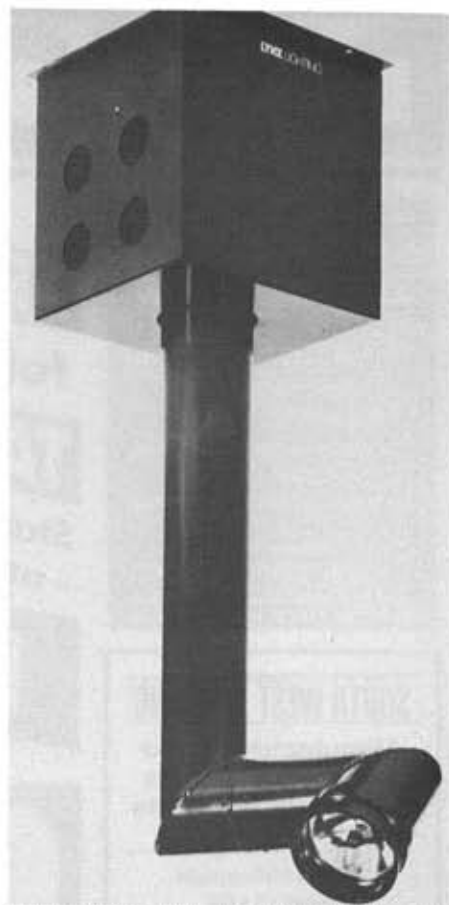
The Tube is a powerful single beam effect. From the same family as the synchro scan, it is therefore designed to be used in multiples, all units being synchronised together. The Tube rotates through 360 degrees in two axes, and each axis can be in-



The Proteus - designed to accommodate a wide range of equipment.

dependently controlled for speed, scanning and position. Up to 30 Tubes can be driven from one controller.

Proteus is a large pan and tilt device with continuous rotation in two planes. It has a main frame (1.4m x 1m) designed to accommodate a wide range of lighting equipment which would benefit from the powerful features of the Proteus, from simple spinning to accurate positioning with the variable speed and precise joystick control. It has full 360 degree rotation, and seven 20 Amp slip rings provided for power channels. It can carry a load of 40kg and in the picture above is



'The Tube' from Lynx - something different at the PLASA Show.

shown fitted with 24 Discolux heads.

For further information contact Lynx Lighting Limited, 9 Bartlett Court, Lynx Trading Estate, Yeovil, Somerset BA20 1NX telephone (0935) 29290.

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MOON-FLOWER

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For use with smoke.
240V. Lamp 24V. 150W.
Length 43.5cm. Width 30cm. Depth (inc. stirrup) 37cm.
Colour Black. Chrome to special order.



TUBE SPOT

Ideal for mirror balls and for use in clusters with smoke. Comes complete with lens.
Lamp 12V. 50W.
Length 36cm. Width 10cm. Weight 1.80Kg.



MINI MOON-FLOWER

Small, compact. Ideal for small installations and mobile use.
Length 21.5cm. Width 17cm.
Depth (inc. stirrup) 18cm.
Colour Black.
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For latest catalogue and U.K. distributor list contact:-
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